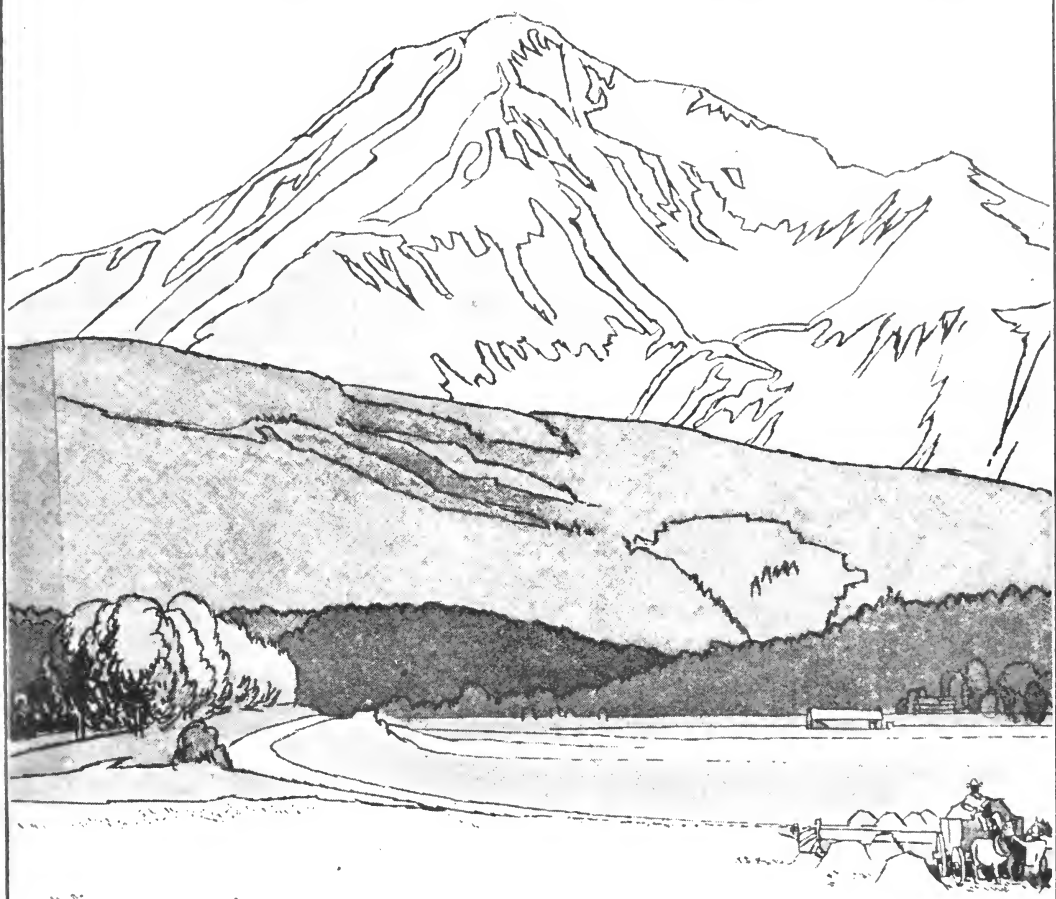


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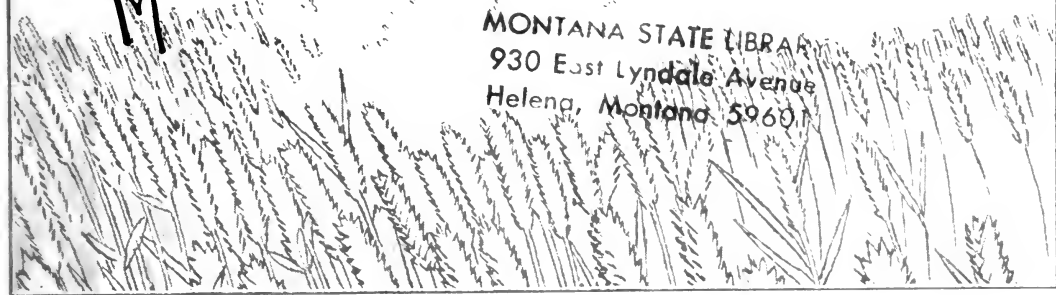
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## FOREWORD

*Preceding issues of the Farm Review have presented county estimates of Montana's crop and livestock production and value. This volume will show only state estimates of such production, but in all other respects will be found comparable with preceding Reviews as a text book showing the yearly agricultural progress of Montana and as a reference for those seeking the statistics of the state's agricultural resources.*

*The omission of the county estimates from the volume was due to two considerations. First the necessity of holding the expense of the publication within the amount that is available for such work. Second the fact that the federal decennial census is now collecting for the year 1929 complete county statistics on agriculture that will be available for our next issue of the Farm Review.*

*The annual farm reviews are published by the Publicity Division of the Montana Department of Agriculture, Labor and Industry. No direct appropriation is made for this publication, the expense for the past eight years being allocated each year from the funds of the Publicity Division. The material presented in the Review is collected and tabulated by the Montana State-Federal Crop Reporting Service which work is performed and financed very largely by the federal government. Upwards of 3,000 Montana farmers and stockmen constitute the crop and livestock reporters in this service and to them this publication is primarily indebted. Last year 12,000 copies of the Farm Review were distributed to farmers, stockmen, agricultural workers, schools, bankers and business men as well as to many people outside of Montana, who were seeking reliable information concerning the state's agricultural resources and opportunities.*

*The State Publicity Division and the State-Federal Crop Reporting Service will welcome suggestions on the improvement of the Farm Review which will increase its usefulness and value to those whom it is designed to serve.*

A. H. STAFFORD  
Commissioner of Agriculture

WARREN W. MOSES  
Chief, Publicity Division.

# MONTANA

1929 FARM REVIEW EDITION

By

The State-Federal Crop Reporting Service  
JAY G. DIAMOND, Agricultural Statistician  
and ROBERT P. SHARPLES, Agricultural Agent

U. S. Bureau of Agricultural Economics

N. A. OLSEN, Chief

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# MONTANA AGRICULTURE IN 1929

## GENERAL REVIEW

The year 1929 was characterized by a summer drought that curtailed crop production generally and resulted in larger than normal marketings of livestock. Price movements during the year were likewise unfavorable to Montana producers in case of some major agricultural commodities including wool, lambs, cattle and dairy products. On the other hand, higher prices were received for most of the farm crops including the more important cash crops such as wheat, flaxseed, potatoes and apples.

The two preceding seasons, being more favorable than average for producers of both crops and livestock, laid the foundation for increased acreage of crops planted in 1929 and plans of livestock producers to increase their holdings. The unfavorable climatic conditions during the growing season by reducing yields and in some cases by acreage abandonment lowered the harvested amounts of crops considerably below the levels of the preceding two years and somewhat below the average of the past five years.

Likewise in case of livestock, larger marketings as a result of short feed supplies had at the close of 1929 reduced holdings of cattle, hogs and milk cows to the levels of a year ago, although sheep holdings were somewhat larger in spite of the increased 1929 marketings.

Both the total value of crop production and cash returns from crops in 1929 were considerably below the high levels reached in 1927 and 1928, due principally to the reduced production. Some offset, however, occurred in the value of the larger marketings of livestock and livestock products with the result that the total income of Montana's agriculture in 1929 was finally indicated to be about 15 per cent lower than in 1928 and about 17 per cent lower than in 1927.

## THE 1929 GROWING SEASON

Following a preceding fall season of below normal precipitation the 1929 growing season opened colder and drier than normal. April and May were unseasonably cold and moderately below normal in precipitation. Farm work was retarded during this period although the weather was not particularly unfavorable to calf and lamb crops, both of which were larger than in 1928.

June was for most part a cool and relatively dry month with frosts and freezing temperatures prevailing well into the third week of the month. The low temperatures were damaging in places to susceptible vegetation and hindered germination and early plant growth, but on the other hand helped conserve moisture supplies with the result that at the end of June a fairly favorable crop outlook had been established.

Such a prospect was encouraged by fact that although June moisture came from showery weather, the showers were fairly general and the state average precipitation at the close of the month was only about half inch below the normal. A sudden shift to warm weather the last week of June brought about a decided improvement in the appearance of crops generally.

July, which is the month in Montana that has buried many a fine crop prospect, opened hot and dry and the first week found the non-irrigated crops showing spotted damage. From the 6th to the 9th general light showers and lower temperatures promised relief, but with the recurrence of high temperatures on the 10th, crop damage again became apparent on a wide scale. July, 1929, developed into one of the three driest Julys in Montana weather records and although averaging but 2.2 degrees above normal in mean temperature for the entire month, a succession of clear dry days from the 10th to the 17th and again from the 20th to the close of the month combined with short reserves of soil moisture caused a steady decline of spring sown crops and grass.

August, apparently not satisfied with July's record, established one in turn of being the hottest August on record with a state mean temperature averaging 4.9 degrees above normal, or 1.3 degrees better than the previous record holder, which was August, 1898. Not to be outdone as to dryness, August, 1929, finished in second place as the driest month of that name since 1895 with August, 1897,

leading by the small margin of 0.03 inch more moisture in the state average precipitation.

Following the July heat and drought, August set out to complete the job by drying out pastures and ranges and water holes that furnish considerable stock water. In western Montana the worst forest fires since 1919 burned over an area estimated at 76,000 acres.

September was a normal month in precipitation and cooler than normal in mean temperature. The first week in September terminated both the drought and heat which were rampant when August closed. Although showery weather prevailed through most of September it was not until the 20th that rainfall was heavy enough to interfere greatly with out-door farm work. By that date, due to the early start of the 1929 harvest, most of the small grain had been harvested and a considerable proportion threshed. Combines operating in the areas of low yields in northern, eastern and central Montana met with ideal conditions in latter August and early September, doing much to help shorten the 1929 harvest period. At the same time, through the combines, many fields of grain of low acre yield were secured where the acreage would have been abandoned if dependent upon the binder.

## SIGNIFICANCE OF THE 1929 GROWING SEASON

More significant than the unfavorable climatic records that were equalled or exceeded by the 1929 growing season is the comparison that the final 1929 crop yields were not only better than expected but also appreciably better than those following similar seasons in the past.

In this comparison it was found that the combined yield of 1929 crops as computed in October was 77.5 per cent of the 10-year average. Following similar damaging growing seasons the year and combined yields have been as follows: 1921, 82.6 per cent of average; 1919, 29.2 per cent of average; 1918, 80.5 per cent of average and 1917, 55.5 per cent of average.

While two crop seasons are not found alike in enough respects to constitute a basis for measuring actually the improvement in yields that has taken place in Montana as a result of improved methods and farm practices, a comparison of final yields in 1929 and 1919 is justified as indicating at least the presence of this factor of improved methods.

Montana's limiting factor in the production of non-irrigated crops is moisture. Temperature to a large extent has shown an inverse correlation with moisture, dry years tending to be unfavorable not only for reason of lack of summer moisture but also for the reason of the high drying temperatures that usually characterize such dryness. On the other hand favorable moisture conditions are usually found associated with favorable temperature conditions.

Montana's normal summer rainfall and normal temperatures are sufficient for average crop needs and most of these years show favorable crop yields. The continental type of climate in Montana results in wide climatic variations out of which come not only drought seasons such as 1919 and 1929, but also seasons of optimum crop conditions like those of 1916 and 1927, as well as many seasons of an intermediate type which show very satisfactory crop yields.

The adverse seasons and the very favorable seasons must therefore be considered together. In such a set-up we find on one hand 1927, a year of optimum climatic conditions resulting in a combined crop yield of 149.4 per cent of the 10-year average, and on the other hand a year like 1929 with a combined crop yield of 77.5 per cent of the 10-year average.

Too often the tendency is to advertise the big crop year and to relegate to oblivion the results of the poor crop year with the result that the year of big crop yields is naturally discounted and the poor crop year gets a whispered publicity that paints a picture much worse than the blunt facts warrant.

Taken together the bumper crop years and the years of drought and failure are extremes that cancel out in the long run. The true picture of what Montana returns to her tillers is written in the long-time averages of crop yields. Comparisons showing Montana's 10-year average crop yields compared with comparable states and the United States averages have been given in these reviews from time to time. It was on such basic facts that Montana has found her place among leading states of the nation in crop and livestock production.

Weather records over long periods of years disclose little or no evidence that climate has become either more favorable or less favorable for crop production either in Montana or elsewhere. Farm methods and practices, utilization of land and choice of crops and livestock are the avenues through which Montana may finally raise or lower the average returns from her agricultural resources. That she already has advanced in the partial solution of these problems is indicated from her record of progress to date. Bumper crop seasons and seasons of drought and partial failure must take their proper place in any program of agricultural development for Montana, even though they present one of the problems of that program.

## 1929 GROWING SEASON WEATHER

MONTH	AVERAGE PRECIPITATION		MEAN TEMPERATURE	
	Amount	Normal	Mean	Normal
March .....	1.20	0.91	34.3	30.2
April .....	0.94	1.15	39.4	42.4
May .....	1.71	2.23	49.7	50.9
June .....	2.14	2.61	58.7	59.4
July .....	0.59	1.54	68.6	66.2
August .....	0.34	1.15	69.3	64.4
September .....	1.36	1.38	51.0	55.0
Season total (or average) .....	8.28	10.97	53.0	52.6

## FARM PRICES IN 1929

The year in prices was a case of higher prices for shorter production for most of the crops which Montana sells although the price improvement fell far short of offsetting the reduced yields.

Of the 17 principal crops, 12 crops including corn, wheat, oats, barley, rye, flaxseed, potatoes, sugar beets, seed peas, tame hay, wild hay, and apples met with prices that were somewhat better than in 1928. The improvement, however, was small except in case of potatoes, flax and hay where 1929 prices were substantially above those of 1928.

Beans, alfalfa seed and cherries met with prices somewhat lower than in 1928 while clover seed and canning peas brought about the same average prices as in 1928.

In the livestock end the general trend of prices during 1929 was downward which was discouraging to stockmen who were forced to sell on these markets as a result of short feed and pasture. However, in the case of cattle, the decline still left cattle prices at relatively high levels and sheep men who contracted their fall lambs early evaded most of the late summer and fall decline in sheep prices. Wool in 1929 moved at the lowest prices in several years with buyers very scarce at shearing time and a large quantity consigned by growers rather than accept shearing time offers. Lamb prices compared favorably with 1928 during the first half of 1929 but fell about 60 cents to one dollar per hundred when fall shipments began to assume volume. Cattle prices for beef cattle averaged \$8.90 per hundred in September compared with \$10.20 in September, 1928, holding about the same spread in October. Hog prices after maintaining levels above 1928 broke slightly below 1928 prices in September when they averaged \$9.90 per hundred compared with \$10.10 in September, 1928. They also averaged slightly under the 1928 prices in October but recovered to levels above 1928 during November and December.

The dairy men also encountered falling prices compared with 1928 toward the end of 1929, but it was not until November that the spread was significant. In November the average reported price for Montana butterfat was 43 cents compared with 47 cents in November, 1928, while the December, 1929, price averaged 40 cents compared with 49 cents for December, 1928.

Poultry growers also encountered November and December prices in 1929 that were below those of 1928 but the spread was small for poultry other than turkeys. November average price of chickens was 17.1 cents per pound compared with 17.8 cents in November, 1928, while for turkeys the November, 1929, price averaged 28 cents compared with 32 cents per pound in November, 1928. December prices saw about the same spread for chickens, but turkey prices again dropped sharply, averaging but 23 cents per pound compared with 31 cents for December, 1928.

# MONTANA MONTHLY FARM PRICES—1928 AND 1929

ESTIMATED PRICES OF IMPORTANT PRODUCTS AS OF THE FIFTEENTH OF EACH MONTH

COMMODITY	January		February		March		April		May	
	1928	1929	1928	1929	1928	1929	1928	1929	1928	1929
Wheat (1) .....	\$ 1.01	\$ .84	\$ 1.01	\$ .90	\$ 1.02	\$ .91	\$ 1.12	\$ .86	\$ 1.27	\$ .77
Corn (1) .....	.87	.84	.87	.88	.92	.92	.90	.96	1.05	.98
Oats (1) .....	.45	.42	.45	.43	.47	.44	.51	.44	.51	.45
Barley (1) .....	.62	.58	.62	.59	.70	.61	.70	.62	.69	.62
Rye (1) .....	.73	.72	.75	.78	.85	.70	.84	.68	.99	.65
Flax (1) .....	1.79	2.04	1.77	2.09	1.84	2.10	1.84	2.10	1.98	2.10
Potatoes (1) .....	.65	.65	.70	.60	.75	.60	.75	.65	.65	.70
Hay (2) (loose) .....	8.50	8.80	8.40	9.50	8.70	10.50	8.60	10.30	9.00	10.50
Butter (4) .....	.47	.48	.46	.48	.46	.47	.45	.47	.43	.45
Eggs (3) .....	.44	.37	.33	.38	.22	.32	.19	.19	.20	.19
Chickens (4) .....	17.2	17.1	16.5	18.0	17.8	18.2	18.2	19.9	19.5	19.7
Timothy (2) .....	9.30	9.80	9.10	10.30	10.80	10.80	11.20	11.20	10.50	11.20
Clover (2) .....	10.10	8.80	8.90	10.30	10.40	10.80	9.10	10.30	9.40	9.80
Alfalfa (2) .....	9.10	9.30	9.10	10.20	9.60	11.20	9.50	11.20	9.70	11.10
Prairie (2) .....	7.90	8.00	8.50	8.80	8.70	9.40	8.10	9.40	9.30	9.90
Alfalfa seed (5) .....	13.40	14.40	13.00	14.70	13.00	16.70	14.50	16.30	14.50	16.60
Hogs (5) .....	8.00	7.90	7.60	8.50	7.60	9.10	7.80	9.70	8.50	9.80
Beef cattle (5) .....	8.30	8.70	8.60	9.30	9.40	9.70	9.00	9.40	9.30	9.80
Veal calves (5) .....	10.00	11.30	10.10	12.00	10.80	12.50	10.90	12.50	11.70	12.40
Sheep (5) .....	7.20	8.50	8.00	8.50	8.20	8.90	8.60	8.90	8.70	8.60
Lambs (5) .....	10.90	11.70	10.90	11.70	11.20	12.10	11.50	12.20	11.60	11.90
Turkeys (4) .....	.32	.29	.....	.....	.....	.....	.....	.....	.....	.....
Wool (unwash) (4) ..	.37	.36	.38	.36	.38	.35	.38	.36	.30	.34
Milk cows (6) .....	72.00	87.00	74.00	87.00	75.00	87.00	77.00	87.00	79.00	90.00
Horses (6) .....	45.00	47.00	48.00	47.00	50.00	47.00	51.00	47.00	52.00	48.00
Apples (1) .....	1.90	1.40	1.90	1.15	1.80	.95	2.00	.85	2.15	1.25
Apples (7) .....	5.70	4.20	5.70	3.45	5.40	2.85	6.00	2.55	6.45	3.75

June		July		August		September		October		November		December	
1928	1929	1928	1929	1928	1929	1928	1929	1928	1929	1928	1929	1928	1929
\$ 1.17	\$ .74	\$ 1.09	\$ .93	\$ .82	\$ 1.02	\$ .79	\$ 1.04	\$ .83	\$ 1.02	\$ .81	\$ .92	\$ .81	\$ .99
1.00	.96	.95	.90	.90	.85	.83	.81	.79	.85	.84	.86	.76	.81
.51	.43	.49	.46	.40	.46	.36	.46	.36	.46	.36	.49	.40	.49
.70	.56	.71	.64	.56	.60	.53	.58	.51	.60	.50	.64	.54	.65
.93	.57	.87	.71	.72	.78	.65	.71	.69	.72	.68	.69	.69	.73
2.01	2.09	1.89	2.23	1.76	2.52	1.74	2.71	1.91	2.89	1.92	2.80	1.96	2.79
.65	.65	.75	.95	1.00	1.50	.75	1.50	.60	1.80	.60	1.80	.50	1.85
9.90	10.60	9.00	9.80	9.00	10.70	8.30	11.20	8.40	11.40	8.80	11.80	8.80	11.90
.42	.45	.43	.44	.43	.43	.46	.46	.47	.47	.49	.46	.50	.44
.21	.22	.23	.24	.26	.26	.31	.29	.37	.35	.44	.44	.48	.47
19.1	19.6	19.0	20.4	20.1	20.0	19.5	19.2	18.9	18.1	17.8	17.1	16.7	15.6
11.80	10.90	10.50	12.00	10.00	12.10	9.70	12.80	9.70	12.90	9.70	12.90	9.70	12.90
9.10	9.40	9.00	9.20	10.00	10.00	9.30	11.00	9.70	11.70	9.20	11.90	8.80	13.00
10.20	10.70	9.10	9.70	9.80	10.60	9.50	11.50	9.50	12.50	9.70	12.80	9.70	13.30
9.10	10.10	8.80	9.70	9.20	9.90	9.20	10.70	8.90	10.60	8.80	10.90	9.10	11.00
14.50	17.50	15.00	18.50	15.80	17.50	14.00	14.20	13.30	13.40	14.70	11.60	14.10	12.50
8.50	9.50	8.80	9.80	9.50	10.30	10.10	9.90	9.30	9.20	8.10	8.50	8.00	8.50
8.90	9.30	8.90	9.30	9.80	9.80	10.20	8.90	9.80	8.50	9.20	8.30	9.00	8.20
11.60	12.20	11.80	13.00	12.30	12.60	12.70	11.30	12.00	11.20	11.60	10.50	12.00	10.70
8.40	8.80	8.40	7.70	8.40	7.70	8.50	8.00	8.50	7.50	8.20	7.30	8.30	7.30
11.50	11.60	11.20	11.50	11.10	11.10	11.40	10.80	11.20	10.50	11.10	10.90	11.20	10.20
.....	.....	.....	.....	.....	.....	.....	.....	.29	.28	.32	.28	.31	.23
.39	.32	.38	.29	.38	.29	.38	.30	.39	.29	.36	.28	.37	.30
81.00	92.00	80.00	92.00	81.00	90.00	85.00	91.00	88.00	88.00	88.00	90.00	89.00	86.00
51.00	48.00	49.00	51.00	49.00	46.00	48.00	46.00	47.00	47.00	47.00	42.00	52.00	42.00
1.75	1.20	2.00	1.00	1.35	.....	1.10	1.30	1.01	1.50	1.10	1.60	1.45	1.55
5.25	3.60	6.00	3.00	4.05	.....	3.80	3.90	3.30	4.50	3.30	4.80	4.35	4.65

(1) per bushel. (2) per ton. (3) per dozen. (4) per pound. (5) per cwt. (6) per head. (7) per bbl.

# FARM LABOR AND FARM LABOR WAGES IN 1929

The farm labor situation in Montana during 1929 was more favorable to farmers than in 1928 both from the standpoint of supply and prevailing wages paid by farmers to labor. Demand on part of farmers for labor in 1929 was reduced by reason of the drought especially as affecting the demand for grain harvest labor.

## SUPPLY LARGER

For the 10 months, March to December, the average supply of available farm labor as reported monthly by crop correspondents was 99.2 per cent of normal. For the same period in 1928 the supply averaged 97.0 per cent of normal.

Demand for farm labor for the 10 months, March to December, averaged 86.8 per cent of normal compared with 93.9 per cent for the same period in 1928.

The following table shows as a percentage of normal the reported supply and demand for farm labor by months for 1929 and 1928. In these monthly averages is reflected the sharp decline in demand for farm labor compared with 1928 that started in August. This was due to the short grain harvest of 1929 and the extensive use of combines which reduced harvest labor needs materially.

The ratio of supply to demand for 1929 was 114.2 per cent compared with the ratio of 103.3 per cent reported in 1928.

### SUPPLY AND DEMAND FOR FARM LABOR

Month	SUPPLY PER CENT OF NORMAL		DEMAND PER CENT OF NORMAL	
	1929	1928	1929	1928
March .....	100	98	91	93
April .....	98	98	94	96
May .....	97	96	96	96
June .....	98	97	92	93
July .....	98	102	90	91
August .....	98	95	84	95
September .....	98	96	80	97
October .....	100	94	82	94
November .....	103	95	79	93
December .....	102	99	80	91
10 month average .....	99.2	97.0	86.8	93.9

Ratio of supply to demand: 1929, 114.2 per cent; 1928, 103.3 per cent.

## FARM WAGES LOWER

Farm wages, although starting the year at levels slightly above those of the beginning of the preceding year, fell gradually during the season and at harvest time were substantially lower than during the harvest of 1928.

The quarterly averages for prevailing farm wages as reported in both 1929 and 1928 are shown in the following table:

### MONTANA FARM WAGES

	BY THE MONTH				BY THE DAY			
	With Board		Without Board		With Board		Without Board	
	1929	1928	1929	1928	1929	1928	1929	1928
January.....	\$46.25	\$45.00	\$67.50	\$69.75	\$2.60	\$2.65	\$3.60	\$3.60
April.....	54.50	55.25	74.75	74.50	2.60	2.70	3.70	3.65
July.....	57.50	58.00	78.75	78.50	2.85	2.75	3.70	3.60
October.....	57.25	65.50	77.00	83.25	3.50	3.70	3.80	4.35

## 1929 FARM LAND VALUES

Farm land values as reported by crop correspondents each March show a decline in values on March 1, 1930, following the poor crops of 1929, and have just about discounted the rise in values that followed the good crop years of 1928 and 1927. Montana land values declined sharply during the post war period



reaching relatively low levels in 1925. Present reported values are still close to these levels.

MARCH 1 REPORTED VALUATIONS PER ACRE MONTANA FARM LANDS							
	1920	1925	1926	1927	1928	1929	1930
All farm lands improved.....	\$42.20	\$23.50	\$27.00	\$23.30	\$25.20	\$27.00	\$23.50
All farm lands unimproved.....	32.00	15.00	19.00	16.51	17.50	19.50	15.50

## ASSESSED VALUES MONTANA FARM LANDS\*

The assessed values of Montana farm lands in 1929 showed a further decline in case of irrigated lands which have been dropping steadily since 1923. Non-irrigated plowlands following some increase in 1927 and 1928 dropped slightly in 1929 as did also grazing lands. The following table shows assessed valuation for 1929 compared with preceding years.

ASSESSED VALUES PER ACRE OF MONTANA LANDS						
	1923	1925	1926	1927	1928	1929
Irrigated farm lands.....	\$51.15	\$50.95	\$50.80	\$48.89	\$49.09	\$47.08
Non-irrigated tillable lands.....	13.47	13.44	12.86	13.16	13.19	13.01
Grazing lands .....	6.08	4.95	4.82	4.62	4.62	4.58

\*Data from State Board of Equalization.

## BANK DEPOSITS IN 1929

Montana bank deposits and resources in 1929 reflected the reduced returns to agriculture according to the record of George M. Robertson, state bank examiner. The total resources of 67 national banks, 127 state banks and 1 private bank at the close of business on Dec. 31, 1929, aggregated \$189,000,000, compared with \$208,000,000 for 1928; \$193,000,000 for 1927 and \$176,000,000 for 1926.

Similarly deposits which were \$185,000,000 on Dec. 31, 1929, were about \$20,000,000 less than a year ago and \$6,000,000 less than two years ago. Compared with 1926, however, they were \$15,000,000 larger and \$51,000,000 larger than on Dec. 31, 1925.

The number of banks declined slightly during 1929, compared with 1928 due to consolidations.

Year	National	State	Private	Total
1927 .....	73	132	2	207
1928 .....	71	130	1	202
1929 .....	67	127	1	195

Population per bank which was 1,276 people in 1920 has continued to increase during the post war years and is now about 2,700, or more than double the 1920 number.

The average deposits per bank at the end of 1929 were about \$846,150 compared with \$918,186 in 1928 and \$826,927 on December 31, 1927.

## SALES OF FARM MACHINERY IN 1929

Nineteen-twenty-nine sales of farm implements and machinery as reflected in the Montana Railroad Commission's records of cars shipped into the state show a sharp recession from the high mark recorded in 1928 but were almost equal to those of 1927 and higher than any preceding year back to 1921.

Shipments declined sharply during the last half of 1929 and were only 62 cars in August, 1929, compared with 129 cars in August, 1928. The drought, the effects of which were apparent in August, 1929, curtailed the demand for new equipment on part of farmers which was quickly reflected in the movement of such equipment from factories to dealers hands.

Montana farmers have made extensive replacement of old machinery during the past five years, as well as purchasing considerable new labor saving, powered farm machinery. Sales of tractors, combines and cultivators have been reported unusually heavy during 1926, 1927, and 1928.

## MONTANA IMPORTS OF FARM IMPLEMENTS\*

Year	No. of Cars	Year	No. of Cars
1921 .....	249	1927 .....	328
1925 .....	196	1928 .....	445
1926 .....	271	1929 .....	326

\*Records of Montana Railroad Commission.

# FARM INCOME IN 1929

Combined sales of crops and livestock and its products in 1929 are valued at \$125,595,000, compared with \$147,945,000, revised estimate for 1928, and \$151,713,000 for 1927.

In this total, crop sales are estimated at \$51,031,000, compared with \$75,777,000 in 1928 and \$88,409,000 in 1927, while the value of livestock marketings and sales of livestock products is placed at \$74,564,000 in 1929, compared with \$72,168,000 in 1928 and \$63,304,000 in 1927.

## MONTANA AGRICULTURAL INCOME\*

Year	From Crops Sold	From Livestock Sold	Total
1929	\$51,031,000	\$74,564,000	\$125,595,000
1928	75,777,000	72,168,000	147,945,000
1927	88,409,000	63,304,000	151,713,000
1926	57,971,000	75,007,000	132,978,000
1925	57,877,000	66,052,000	123,929,000
1924	74,343,000	50,559,000	124,902,000
1923	47,334,000	48,001,000	95,335,000
1922	41,799,000	42,212,000	84,011,000
1921	31,010,000	26,485,000	57,495,000
1920	54,200,000	48,039,000	102,239,000

\*Based on estimated values of farm sales of crops and livestock and its products.

From this table is indicated the expansion of both the crop production and the livestock industry in the state in the past 10 years. In case of crops, while the principal cash crop, wheat, has expanded considerably during this period there has also developed an increasing income from other cash crops such as sugar beets, peas, beans, alfalfa seed, flaxseed, and potatoes. In case of livestock, while both the cattle and sheep marketings have increased during this period, there has been a substantial increase also in the value of dairy products, poultry and bees.

As a whole the state's agricultural industry has become more diversified during the past 10 years despite the fact that there are large areas within the state where much of the enterprise is concentrated largely in one crop or one class of livestock.

Diversification of the state's agricultural income as between crops and livestock gives a tendency of income from either source to be offsetting. In other words, years of relatively low crop income show relatively large income from livestock, while years of large crop income tend to show relatively lower income from livestock sources. This is partly explained by the fact that the dry seasons which frequently lower crop income by reducing the quantity for market, also influences larger marketings of range livestock by reducing feed supplies. On the other hand years of good crops are usually years of favorable feed supplies tending to reduce marketings of range livestock. A contributing factor is the tendency of farmers to sell livestock in years of poor crops and to hold in years of favorable crops.

In the table of yearly income the year 1929 is an example where the lowest crop income since 1923 was associated with the second largest livestock income of the 10-year period. On the other hand the year 1924 with the third largest crop income is associated with a relatively low income from livestock.

An itemized statement of the preliminary estimates of 1929 income compared with the revised estimates for 1928 is given in the following table:

## \* ESTIMATED CASH INCOME FROM AGRICULTURAL PRODUCTS

Livestock and Products	Revised 1928	Preliminary 1929
1. Cattle and Calves	\$28,853,000	\$28,357,000
2. Sheep and Lambs	11,105,000	18,934,000
3. Hogs	5,262,000	7,110,000
4. Wool	10,118,000	8,432,000
5. Dairy Products	11,888,000	11,998,000
6. Poultry	4,314,000	4,098,000
7. Horses	347,000	885,000
8. Honey and Wax	281,000	250,000
<b>TOTAL LIVESTOCK INCOME</b>	<b>\$72,168,000</b>	<b>\$74,564,000</b>

Farm Crops	Total Value	Sales	Total Value	Sales
1. Wheat .....	\$ 65,036,000	\$58,396,000	\$38,181,000	\$31,918,000
2. Hay .....	27,126,000	5,198,000	30,762,000	6,112,000
3. Oats .....	8,291,000	492,000	4,803,000	275,000
4. Barley .....	3,569,000	206,000	2,731,000	200,000
5. Rye .....	1,488,000	299,000	879,000	160,000
6. Flaxseed .....	2,988,000	788,000	2,626,000	2,426,000
7. Corn .....	4,269,000	313,000	3,034,000	242,000
8. Potatoes .....	2,340,000	975,000	3,366,000	2,196,000
9. Apples .....	464,000	382,000	546,000	464,000
10. Miscellaneous Fruits .....	121,000	101,000	131,000	95,000
11. Dry Beans .....	2,233,000	1,952,000	1,890,000	1,546,000
12. Sugar Beets .....	1,899,000	1,899,000	2,715,000	2,715,000
13. Miscellaneous Truck .....	500,000	485,000	375,000	350,000
14. Canning Peas .....	209,000	209,000	214,000	214,000
15. Alfalfa Seed .....	667,000	617,000	828,000	778,000
16. Clover Seed .....	135,000	70,000	58,000	40,000
17. Seed Peas .....	664,000	626,000	832,000	800,000
18. Farm Gardens .....	3,668,000	769,000	2,102,000	500,000
<b>TOTAL CROPS</b> .....	<b>\$125,667,000</b>	<b>\$75,777,000</b>	<b>\$96,073,000</b>	<b>\$51,031,000</b>
All Agricultural Products (Value of Sales) .....	\$147,945,000		\$125,595,000	

## CROP PRODUCTION IN 1929

Nineteen-twenty-nine, although exceeding both 1928 and 1927 in area planted to crops, fell considerably below these big crop years in final out-turns, by reason of the severe summer drought that gripped the state from early July to the first week of September. All crops on non-irrigated lands suffered loss of acreage planted as well as considerable loss of yield per acre on the area harvested. Irrigated crops while faring better were also handicapped by reduced water supplies and some burning under the high day temperatures in the latter half of July.

Yields largely by reason of the climatic damage were reduced 22.5 per cent below the 10-year average, taking the yields of 17 principal crops combined in relation to their combined 10-year average yields. This was in decided contrast with 1928 when yields were 29.3 per cent higher than the 10-year average and with the bumper crop of 1927 when they rose to 57.2 per cent above the 10-year average.

Similar seasons in the past, however, have found Montana yields lower than in 1929, which indicates the extent to which Montana farmers have adapted their methods to cope with climatic limitations. In case of the grain crops on which the bulk of the damage occurred, the combine in 1929 saved many fields that would never have been cut with the binder after new type machinery had put in these crops with a relatively low labor cost. Summer fallow on which 39 per cent of the 1929 spring wheat crop was sown was likewise an insurance against the heat and drought damage.

## TOTAL TONNAGE IN 1929

Total tonnage of all principal crops in Montana in 1929 was 4,616,007, compared with the revised estimate for 1928 of 6,618,691 tons. The 1929 crop was 30.3 per cent below the crop of 1928.

TONNAGE PRODUCTION OF MONTANA CROPS						
Crops	1924	1925	1926	1927	1928	1929
Corn .....	226,000	197,520	118,470	215,040	156,180	108,360
All Wheat .....	1,553,970	1,050,630	1,387,064	2,406,240	2,339,940	1,202,940
Oats .....	259,600	217,792	266,656	381,440	323,536	150,688
Barley .....	62,400	78,624	186,400	154,440	152,976	96,384
Rye .....	33,600	30,000	35,952	72,360	64,680	36,630
Flax .....	59,920	30,744	19,404	48,552	46,680	28,140
All Hay .....	2,708,000	2,681,000	2,263,000	3,701,000	3,103,000	2,527,000
Potatoes .....	89,760	113,400	89,250	136,080	127,650	59,400
Beans .....	16,800	12,936	12,900	19,200	17,400	15,750
Seed Peas .....	11,760	15,630	16,200	8,820	9,960	11,880
Canning Peas .....	2,100	3,984	3,792	3,100	3,800	3,900
Alfalfa Seed .....	1,410	2,340	1,860	594	1,440	2,190
Sugar Beets .....	365,000	315,000	352,000	364,000	258,000	362,000
Cherries .....	200	260	325	300	120	260
Clover Seed .....	270	660	900	900	945	405
Apples .....	6,960	1,920	8,304	7,080	12,384	10,080
<b>TOTAL TONNAGE</b> .....	<b>5,398,550</b>	<b>4,702,440</b>	<b>4,662,477</b>	<b>7,519,146</b>	<b>6,618,691</b>	<b>4,616,007</b>

## AVERAGE YIELDS PER ACRE IN 1929

Average yields per acre for all principal crops except sugar beets in 1929 were the poorest in several years. Sugar beets, which are grown wholly under irrigation, escaped the drought and heat damage which greatly reduced the yields of non-irrigated crops.

Winter wheat and rye by reason of earlier maturity were not damaged as badly as the spring sown grains. Hay encountered favorable weather for producing and curing satisfactory first cuttings before the dry hot weather of July and August.

Spring grains and flax suffered the brunt of the drought damage which reduced yields of these crops considerably below average. Aside from drought damage to that part of the potato crop planted on non-irrigated lands, a cold, late spring retarded early development of potatoes on irrigated land and heat was generally injurious to the crop at blossoming time.

Bean yields were reduced by drought damage to non-irrigated beans. The irrigated beans generally made good crops. Corn lacked sufficient moisture to make anything better than a fair yield although maturing generally to a good quality. The seed crops including alfalfa and clover made as good yields in 1929 as in 1928, which were about average. Quality of the seed was somewhat better than average.

### AVERAGE ACRE YIELDS

Crop	1924	1925	1926	1927	1928	5-Yr. Av. 1920-24	1929
Spring Wheat .....	16.2	10.5	12.2	20.6	19.0	13.3	9.0
Winter Wheat .....	17.1	14.5	14.0	22.4	15.0	15.1	14.0
Corn .....	19.0	16.5	11.0	23.0	19.0	20.1	12.0
Oats .....	29.5	22.5	26.0	40.0	36.5	28.1	17.0
Barley .....	25.0	21.5	24.0	33.0	30.5	22.8	16.0
Rye .....	14.0	12.5	12.0	18.0	14.0	11.6	11.0
Flax .....	8.7	4.5	4.7	10.2	8.5	6.3	3.2
Potatoes .....	88.0	108.0	85.0	135.0	115.0	108.8	60.0
Tame Hay .....	1.71	1.65	1.59	2.12	1.98	1.76	1.42
Wild Hay .....	.90	.90	.80	1.15	.90	.89	.75
Beans .....	12.0	12.5	10.0	20.0	14.5	12.2	10.5
Sugar Beets .....	.....	.....	11.0	11.4	9.0	.....	9.7

## ACRE VALUES OF CROP YIELDS

The average yields per acre as valued by the prices of farm crops in 1929 show in most cases much lower values than for 1928 and the 5-year average (1924-1928).

Potatoes, sugar beets and winter wheat were three instances where 1929 acre values were higher than in 1928.

### ACRE VALUE

Crop	1923	1924	1925	1926	1927	1928	1929	5-Yr. Av.
Spring Wheat .....	\$15.96	\$20.09	\$14.70	\$13.92	\$19.98	\$15.96	\$ 8.64	\$16.85
Winter Wheat .....	12.00	21.20	19.29	14.98	20.24	12.00	12.88	17.06
Corn .....	15.58	17.82	15.68	10.12	16.92	15.58	10.08	15.31
Oats .....	14.97	13.82	11.92	13.78	17.60	14.97	8.67	14.43
Barley .....	17.08	17.25	15.12	15.36	19.80	17.08	10.88	16.93
Rye .....	9.66	12.74	9.25	9.00	13.14	9.66	7.92	10.80
Flax .....	16.32	19.22	9.90	8.69	17.85	16.32	8.96	14.40
Potatoes .....	63.25	76.56	172.80	102.00	87.75	63.25	102.00	100.10
Tame Hay .....	17.62	17.64	16.61	16.50	17.80	17.62	17.61	17.24
Wild Hay .....	7.20	8.10	8.10	7.60	8.63	7.20	8.40	8.04
Beans .....	55.83	39.60	38.13	28.00	60.00	55.82	37.80	43.79
Sugar Beets .....	72.00	.....	70.87	86.13	93.71	67.71	72.75	85.84

(Average yield per acre times farms price per bushel or ton.)

## PERCENTAGE OF CROPS SOLD

Varying percentages of crops produced are sold yearly for cash, the amount sold varying with changes in production. As a rule the percentage retained on farms for seed, feed and other consumption is fairly constant. Reporters are asked during the season to estimate the percentage of various crops sold or to be sold for shipment out of the county where grown. With this information as a basis, combined with the experience of past years as to amounts of crop production moving out of Montana in commercial channels, the following estimates of percentage of crops sold has been determined.

# PERCENTAGE OF CROPS MARKETED

Crops	1927	1928	1929	Crops	1927	1928	1929
All Wheat .....	92	90	84	Cherries .....	80	89	90
All Hay .....	17	19	20	Beans .....	63	87	82
Oats .....	6	6	6	Sugar Beets .....	100	100	100
Barley .....	6	6	7	Truck Crops .....	94	95	95
Rye .....	15	12	18	Canning Peas .....	100	100	100
Flaxseed .....	94	94	92	Alfalfa Seed .....	85	92	94
Corn .....	5	9	10	Clover Seed .....	53	52	68
Potatoes .....	33	30	35	Seed Peas .....	95	94	96
Apples .....	76	82	85	Farm Gardens .....	17	21	24

# ACREAGE SHIFTS IN 1929

Nineteen-twenty-nine found Montana farmers ready to again increase their total crop acreage, especially in spring sown crops, but earlier plans were modified at spring seeding time and drought intervened to still further reduce the acreage that was finally harvested. The acreage finally harvested in 1929 of all crops was estimated at 7,994,000, an increase of about 3 per cent over the 7,708,000 acres harvested in 1928.

Abandonment of planted acreage in case of the grain crops was sufficient to bring the 1929 harvested total somewhat under that harvested in 1928, the totals being 5,383,000 acres for 1929 compared with 5,466,000 acres in 1928.

There were offsetting increases however in the groups, other seed crops and all hay and forage acreages.

Acreage of crop failure from all causes in 1929 was 666,000 acres compared with 383,000 acres in 1928 and 228,000 acres in 1927. The acreage lying out in summer fallow in 1929 as indicated by the Rural Carrier Survey in September was 2,072,000 acres, compared with 2,205,000 acres in 1928 and 2,782,000 acres in 1927.

# ACREAGE CHANGES 1929

	1924	1925	1926	1927	1928	1929
TOTAL LAND AREA .....	93,532,840					
Land in Farms.....	32,735,723					
Pasture Land .....	22,714,811					
Improved Pasture Land .....	4,144,050					
Wild .....	17,249,146					
Woodland .....	1,311,615					
Other Land .....	1,546,688					
Total Crop Land.....	8,650,000	8,930,000	9,656,000	10,545,000	10,304,000	10,690,000
Total Acres in Crops.....	6,595,000	6,797,000	6,817,000	7,535,000	7,708,000	7,944,000
Grain Crops Total.....	4,526,000	4,490,000	4,827,000	5,080,000	5,466,000	5,383,000
Corn .....	420,000	399,000	359,000	305,000	274,000	301,000
All Wheat .....	3,163,000	3,250,000	3,570,000	3,850,000	4,275,000	4,166,000
Winter Wheat .....	620,000	224,000	521,000	648,000	803,000	522,000
Spring Wheat .....	2,543,000	3,026,000	3,049,000	3,202,000	3,472,000	3,643,000
Durum Wheat* .....	39,000	32,000	14,000	15,000	29,000	29,000
Oats .....	550,000	605,000	641,000	596,000	554,000	554,000
Barley .....	104,000	156,000	150,000	195,000	209,000	251,000
Rye .....	80,000	80,000	107,000	134,000	154,000	111,000
Other Seed Crops Total.....	320,000	347,000	263,000	223,000	269,000	400,000
Beans .....	25,000	37,000	43,000	32,000	40,000	50,000
Seed Peas .....	24,000	28,000	27,000	14,000	19,000	24,000
Flaxseed .....	246,000	244,000	165,000	170,000	183,000	293,000
Clover Seed (sweet) .....	3,000	7,000	5,000	6,000	7,000	3,000
Alfalfa Seed .....	19,000	28,000	23,000	11,000	20,000	30,000
All Hay and Forage.....	1,879,000	1,882,000	1,644,000	2,139,000	1,900,000	2,082,000
Timothy .....	100,000	100,000	101,000	101,000	106,000	106,000
Clover .....	51,000	55,000	50,000	56,000	67,000	60,000
Timothy, Clover Mixed .....	157,000	157,000	140,000	154,000	162,000	189,000
Alfalfa Hay .....	598,000	604,000	592,000	710,000	689,000	744,000
Grain Cut for Hay .....	190,000	211,000	274,000	140,000	168,000	235,000
Other Tame Hay (all) .....	110,000	105,000	94,000	113,000	102,000	112,000
Wild Hay (cut).....	673,000	650,000	393,000	865,000	606,000	626,000
Potatoes .....	34,000	35,000	35,000	36,000	37,000	33,000
Other Vegetables.....	5,000	5,000	5,000	5,000	5,000	5,000
Sugar Beets .....	31,000	30,000	32,000	32,000	28,000	37,000
Canning Peas .....	1,900	3,100	2,000	2,800	3,500	4,200
Crop Failure .....	308,000	557,000	691,000	228,000	383,000	666,000
Idle and Fallow Land.....	1,750,000	1,855,000	2,140,000	2,782,000	2,205,000	2,072,000
Fruit Crops (acres).....	8,000	8,000	8,000	8,000	8,000	8,000
Apple Trees (number).....	712,000	650,000	577,000	577,000	577,000	577,000
Plum Trees (number).....	19,000	19,000	19,000	19,000	19,000	19,000

\* Durum Wheat included in Spring Wheat totals.

**ACREAGE, YIELD PER ACRE, PRODUCTION, FARM PRICE, PER  
UNIT ON DECEMBER 1, AND TOTAL FARM VALUE FOR  
THE STATE FOR 1928-1929 AND FIVE YEAR AVERAGE**

CROP AND YEAR	Acreage (000)	Yield Per Acre	Production (000)	Unit Price \$	Farm Value \$(000)	Acre Value \$
<b>CORN (bu.)</b>						
1929 .....	301	12.0	3,612	.84	3,034	10.08
1928 .....	274	19.0	5,206	.82	4,269	15.58
1924-28 Average .....	351	17.4	8,093	.88	5,360	15.31
<b>WINTER WHEAT (bu.)</b>						
1929 .....	522	14.0	7,308	.92	6,723	12.88
1928 .....	803	15.0	12,045	.80	9,686	12.00
1924-28 Average .....	561	16.9	9,489	1.01	9,605	17.06
<b>DURUM WHEAT (bu.)</b>						
1929 .....	29	8.8	255	.88	224	.....
1928 .....	29	18.5	536	.84	450	.....
1924-28 Average .....	26	14.7	383	1.10	423	.....
<b>OTHER SPRING WHEAT (bu.)</b>						
1929 .....	3,615	9.0	32,535	.96	31,234	8.64
1928 .....	3,443	19.0	65,417	.84	54,950	15.96
1924-28 Average .....	3,033	15.9	48,104	1.06	51,053	16.85
<b>ALL WHEAT (bu.)</b>						
1929 .....	4,166	9.6	40,098	.95	38,181	.....
1928 .....	4,275	18.2	77,998	.83	65,036	.....
1924-28 Average .....	3,620	16.0	57,976	1.05	61,081	.....
<b>OATS (bu.)</b>						
1929 .....	554	17.0	9,418	.51	4,803	8.67
1928 .....	554	36.5	20,221	.41	8,291	14.97
1924-28 Average .....	589	30.7	18,082	.47	8,564	14.43
<b>BARLEY (bu.)</b>						
1929 .....	251	16.0	4,016	.68	2,731	10.88
1928 .....	209	30.5	6,374	.56	3,569	17.08
1924-28 Average .....	163	27.3	4,457	.62	2,777	16.93
<b>RYE (bu.)</b>						
1929 .....	111	11.0	1,221	.72	879	7.92
1928 .....	154	14.0	2,156	.69	1,488	9.66
1924-28 Average .....	111	14.4	1,594	.75	1,190	10.80
<b>FLAXSEED (bu.)</b>						
1929 .....	293	3.2	938	2.80	2,626	8.96
1928 .....	183	8.5	1,556	1.92	2,988	16.32
1924-28 Average .....	202	7.2	1,466	2.00	2,931	14.40
<b>POTATOES (bu.)</b>						
1929 .....	33	60.0	1,980	1.70	3,366	102.00
1928 .....	37	115.0	4,255	.55	2,340	63.25
1924-28 Average .....	35.4	106.5	3,772	.94	3,544	100.10
<b>BEANS (bu.)</b>						
1929 .....	50	10.5	525	3.60	1,890	37.80
1928 .....	40	14.5	580	3.85	2,233	55.82
1924-28 Average .....	35.4	13.6	482	3.22	1,551	43.79
<b>SUGAR BEETS (tons)</b>						
1929 .....	37	9.7	362	2.10	832	34.63
1928 .....	28	9.2	258	2.00	664	35.00
1924-28 Average .....	30.8	10.52	324	2.05	871	39.98
<b>CANNING PEAS (tons)</b>						
1929 .....	4.2	0.93	3.9	55.00	214	51.15
1928 .....	3.5	1.08	3.8	55.00	209	59.40
1924-28 Average .....	2.8	1.35	3.73	52.00	194	70.20
<b>ALFALFA SEED (bu.)</b>						
1929 .....	30	2.4	72.0	11.50	828	27.60
1928 .....	20	2.4	48.0	13.90	667	33.36
1924-28 Average .....	20.2	2.6	51.8	12.88	667	33.49
<b>SWEET CLOVER SEED (bu.)</b>						
1929 .....	3	4.5	13.5	4.30	58	19.35
1928 .....	7	4.5	31.5	4.30	135	19.35
1924-28 Average .....	5.6	4.2	23.5	5.62	132	23.60
<b>ALL TAME HAY (tons)</b>						
1929 .....	1,446	1.42	2,050	12.40	25,420	17.61
1928 .....	1,294	1.98	2,558	8.90	22,766	17.62
1924-28 Average .....	1,251	1.83	2,295	9.42	21,628	17.24
<b>WILD HAY (tons)</b>						
1929 .....	636	.75	477	11.20	5,342	8.40
1928 .....	606	.90	545	8.00	4,360	7.20
1924-28 Average .....	637	.96	609	8.38	5,105	8.04
<b>APPLES (bu.)</b>						
1929 .....	.....	.....	420	1.30	546	.....
1928 .....	.....	.....	516	.90	464	.....
1924-28 Average .....	.....	.....	315	1.15	363	.....

CROP AND YEAR	Acreage (000)	Yield Per Acre	Production (000)	Unit Price \$	Farm Value \$(000)	Acre Value \$
<b>CHERRIES (tons)</b>						
1929 .....	.....	.....	.26	156.00	41	.....
1928 .....	.....	.....	.12	176.00	21	.....
1927-29 Average .....	.....	.....	.23	130.00	30	.....
<b>ALL OTHER CROPS*</b>						
1929 .....	.....	.....	.....	.....	2,567	.....
1928 .....	.....	.....	.....	.....	4,268	.....
1924-28 Average .....	.....	.....	.....	.....	3,874	.....
<b>ALL CROPS (Value)</b>						
1929 .....	.....	.....	.....	.....	96,073	.....
1928 .....	.....	.....	.....	.....	125,667	.....
1924-28 Average .....	.....	.....	.....	.....	122,506	.....

\*Includes strawberries, truck crops and estimated sale value of farm gardens.

## UNITED STATES ESTIMATES OF PRINCIPAL CROPS, ACREAGE, YIELD PER ACRE, PRODUCTION, FARM PRICE PER UNIT ON DECEMBER 1, AND TOTAL FARM VALUE FOR 1929 WITH 1928 FOR COMPARISON

CROP AND YEAR	Acreage	Yield Per Acre	Total Production	Unit	Farm Price on Dec. 1 Per Unit (Cents)	Total Farm Value Based on Dec. 1 Farm Price (Dollars)
<b>CORN</b>						
1928.....	100,673,000	28.0	2,818,901,000	bu.	0.752	2,119,046,000
1929.....	98,018,000	26.8	2,622,189,000	"	0.781	2,048,134,000
<b>WINTER WHEAT</b>						
1928.....	36,213,000	16.0	578,673,000	"	1.035	599,207,000
1929.....	40,162,000	14.4	578,336,000	"	1.065	616,128,000
<b>DURUM WHEAT*</b>						
1928.....	6,836,000	14.2	97,291,000	"	0.719	69,966,000
1929.....	5,315,000	9.9	52,380,000	"	0.882	46,217,000
<b>OTHER SPRING WHEAT U. S.</b>						
1928.....	15,223,000	15.7	238,912,000	"	0.913	218,011,000
1929.....	15,664,000	11.2	175,592,000	"	1.016	178,576,000
<b>ALL WHEAT</b>						
1928.....	58,272,000	15.7	914,876,000	"	0.970	887,184,000
1929.....	61,141,000	13.2	806,508,000	"	1.043	840,921,000
<b>OATS</b>						
1928.....	41,734,000	34.5	1,439,407,000	"	0.409	589,048,000
1929.....	40,217,000	30.8	1,238,654,000	"	0.435	538,445,000
<b>BARLEY</b>						
1928.....	12,598,000	28.4	357,487,000	"	0.552	197,459,000
1929.....	13,212,000	23.2	307,105,000	"	0.550	168,807,000
<b>RYE</b>						
1928.....	3,480,000	12.5	43,366,000	"	0.860	37,290,000
1929.....	3,225,000	12.6	40,629,000	"	0.871	35,371,000
<b>FLAXSEED</b>						
1928.....	2,675,000	7.4	19,928,000	"	2.012	40,098,000
1929.....	2,990,000	5.6	16,838,000	"	2.843	47,871,000
<b>ALL HAY</b>						
1928.....	71,278,000	1.49	106,266,000	tons	11.67	1,239,956,000
1929.....	75,121,000	1.53	114,639,000	"	11.77	1,349,053,000
<b>SWEET CLOVER SEED</b>						
1928.....	227,000	4.01	909,400	"	3.75	3,410,000
1929.....	231,000	4.16	961,800	"	3.74	3,595,000
<b>BEANS, dry edible†</b>						
1928.....	1,643,000	10.7	17,656,000	"	4.18	73,815,000
1929.....	1,879,000	10.3	19,337,000	"	3.77	72,905,000
<b>POTATOES</b>						
1928.....	3,837,000	121.3	465,350,000	"	0.539‡	251,048,000
1929.....	3,370,000	106.1	357,451,000	"	1.314‡	469,701,000
<b>SUGAR BEETS</b>						
1928.....	644,000	11.0	7,101,000	"	7.11 ‡	50,477,000
1929.....	717,000	10.7	7,672,000	"	7.52 ‡	57,679,000
<b>APPLES</b>						
1928.....	.....	.....	186,893,000	bu.	0.994	185,842,000
1929.....	.....	.....	139,754,000	"	1.317	184,107,000

\*Four States. †Principal producing states. ‡Price other than Dec. 1.

# WHEAT PRODUCTION

Production of all wheat in Montana in 1929 was 40,098,000 bushels compared with the 1928 crop of 77,998,000 bushels and the 5-year average (1924-28) production of 57,796,000 bushels.

Acreage of all wheat harvested was 4,166,000 in 1929 compared with 4,275,000 acres in 1928 and the 5-year average harvested acreage of 3,620,000 acres.

The yield per acre for the area harvested in 1929 was 9.6 bushels compared with 18.2 bushels in 1928 and the 5-year average of 16.0 bushels.

## WINTER WHEAT

The area of winter wheat seeded the fall of 1928 for 1929 crop was reduced compared with the previous season by reason of dry fall weather and in some localities by fear of root rot damage which seriously reduced yields of the 1928 crop. Abandonment of planted acreage as a result of winter losses was about 15 per cent for the 1929 crop compared with 18.0 per cent for the 1928 crop.

The 1929 crop yielded an average of 14.0 bushels per acre, which was about a bushel under the 1928 average and nearly two bushels below the 5-year average. Quality of the 1929 crop was only 70 per cent compared with 90 per cent from the 1928 crop. Heat damage resulting in shriveling was the principal reason for the lower quality.

### SUMMARY OF DATA FOR WINTER WHEAT

	1929 Crop	1928 Crop
Area planted preceding fall (acres).....	614,000	979,000
Abandonment between planting and harvest (acres).....	92,000	176,000
Area harvested (acres).....	522,000	803,000
Yield per acre (bushels).....	14.0	15.0
Total production (bushels).....	7,308,000	12,045,000
Quality (per cent).....	70	90
Weight per measured bushel (pounds).....	58.5	59.5

## ALL SPRING WHEAT

The area harvested for all spring wheat in 1929 was 3,644,000 acres including about 29,000 acres of durum wheat. In 1928 a total of 3,472,000 acres were harvested and the 5-year (1924-1928) average acreage harvested was 3,049,000. The increase in harvested acreage of spring wheat would have been larger except for the abandonment of acreage that resulted from the severe summer drought, which accounted for failure of about 231,000 acres not including some acreage that was cut green for hay.

The 1929 yield per acre of all spring wheat was 9.0 bushels compared with 19.0 bushels for the 1928 crop and the 5-year average yield per acre of 15.9 bushels. Low yields were reported extensively over northeastern, parts of north-central and east-central Montana and southeastern Montana where drought damage was more severe. These areas fell well under the state average while western Montana and parts of north-central, central and south-central sections were above the state average.

### SUMMARY OF ALL DATA FOR ALL SPRING WHEAT

	1929 Crop	1928 Crop	1924-28 Average
Area harvested (acres).....	3,644,000	3,472,000	3,049,000
Yield per acre (bushels).....	9.0	19.0	15.9
Production (bushels).....	31,458,000	55,400,000	51,456,000
Quality (per cent).....	82	92	.....
Weight per measured bushel (pounds).....	58.0	59.7	.....

### DURUM WHEAT

	1929 Crop	1928 Crop	1924-28 Average
Area harvested (acres).....	29,000	29,000	26,000
Yield per acre (bushels).....	8.8	18.5	14.7
Production (bushels).....	255,000	536,000	383,000



# SUMMARY OF CERTAIN DATA FOR 1929

## CROPS OF SPRING WHEAT, OATS, BARLEY AND FLAXSEED

Results of a special survey to determine the percentage of acreage of specified crops not harvested by reason of 1929 climatic damage; the percentage of acreage of these crops on different tillages; the average dates of completion of seeding and of certain stages of crop growth are given in the following tables and comments.

The survey yielded returns from 258 farms representing 52 of the 56 counties of the state and covering 240,116 acres. While the results given below are those of the survey itself and no attempt is made to interpret them in terms of all farms, it is believed that the sample will tend to represent what has been true of all farms in the state this year.

The survey farms reported a total acreage of crops planted in 1929 that was 17.4 per cent larger than the harvested acreage of 1928; but noted that 13.4 per cent of the planted acreage in 1929 was not harvested by reason of climatic damage so that the acreage left for harvest in 1929 was but 1.5 per cent larger than that harvested in 1928.

Abandonment of planted acreage of important crops was reported as follows:

Crop	Per Cent Abandoned
Spring Wheat .....	11.6
Oats .....	32.9*
Barley .....	19.2
Flaxseed .....	25.3
Rye .....	18.4*

\*Apparently included some oats and rye cut for hay which should have been excluded.

## TILLAGE USED

Distribution of acreage was asked for important crops on basis of tillage used. Reporters also were asked to designate the tillage on which abandonment occurred. Results of these inquiries were as follows:

### PERCENTAGE OF ACREAGE PLANTED ON

Crop	Summer Fallow	Spring Plow	Land After Cultiv. Crop.	Other Tillage	Total
Spring Wheat .....	39.8	26.3	6.4	28.1	100
Oats .....	16.6	44.1	13.1	26.2	100
Barley .....	15.7	35.1	11.5	37.6	100
Winter Wheat .....	58.2	.....	.....	41.8	100
Flaxseed .....	on sod 72.0	.....	after crop	28.0	100

### PERCENTAGE OF ABANDONMENT REPORTED ON EACH

Crop	Summer Fallow	Spring Plow	Fall Plow	After Crop	Disc and Stubble	Sod	Not Shown
Spring Wheat .....	13.7	32.6	3.0	3.2	23.9	1.9	21.8
Oats .....	7.2	50.2	10.5	5.6	18.2	.1	8.1
Barley .....	20.4	44.4	5.7	19.7	10.5	.....	1.1
Flax .....	.....	.....	.....	11.8	.....	88.2	.....

## SEEDING AND PLANT DEVELOPMENT DATA

Reported completion of seeding shows, in case of spring wheat, the earliest date of reported completion as the last week in March and the latest, the second week of June. The bulk of the work, however, was done by the first week in May, the weekly amounts falling off with about equal regularity throughout May to the second week of June.

Spring wheat began to appear above ground about the second week of April but it was not until the second week of May that the bulk of the crop had emerged. Emergence continued through the second week of June for the later seedings.

The earliest reported heading of spring wheat was in the first week of June from which time the weekly amounts rose regularly to a peak reached in the second week of July with the bulk of the crop heading out during the first and

second weeks of July. Late seeded grain continued to head through July and the second week of August.

The earliest reported blossoming of spring wheat was in the third week of June with the bulk of the crop blossoming between the 1st and 23rd of July and the largest number of cases coming in the week of July 8th to 15th. Late seeded wheat continued to come into blossom through the rest of July and August with one case reported for the last week of August.

#### REPORTED STAGES OF GROWTH OF SPRING WHEAT CROP

MONTH AND WEEK	SEEDING COMPLETED		EMERGENCE		HEADED OUT		BLOSSOMED	
	Number Cases Each Week	Cumulative Number Each Week	Number Cases Each Week	Cumulative Number Each Week	Number Cases Each Week	Cumulative Number Each Week	Number Cases Each Week	Cumulative Number Each Week
MARCH								
24-31.....	1	1	....	....	....	....	....	....
APRIL								
1- 7.....	1	2	....	....	....	....	....	....
8-15.....	13	15	1	1	....	....	....	....
16-23.....	21	36	1	2	....	....	....	....
24-31.....	26	62	6	8	....	....	....	....
MAY								
1- 7.....	53	115	30	38	....	....	....	....
8-15.....	37	152	63	111	....	....	....	....
16-23.....	25	177	21	132	....	....	....	....
24-31.....	8	185	21	153	....	....	....	....
JUNE								
1- 7.....	2	187	17	170	1	1	....	....
8-15.....	1	188	6	176	3	4	1	1
16-23.....	....	....	....	....	6	10	....	....
24-30.....	....	....	....	....	10	29	2	3
JULY								
1- 7.....	....	....	....	....	46	75	10	13
8-15.....	....	....	....	....	48	123	42	55
16-23.....	....	....	....	....	4	127	15	70
24-31.....	....	....	....	....	5	132	17	87
AUGUST								
1- 7.....	....	....	....	....	5	137	5	92
8-15.....	....	....	....	....	2	139	4	96
16-23.....	....	....	....	....	....	....	2	98
24-31.....	....	....	....	....	....	....	1	99

Seeding of oats was reported starting the second week of April and continuing through the third week of June. The bulk was seeded during May. Emergence began the third week of April and reached its peak about the second week of May but continued through June for the late seedings.

Seeding of barley began the first week of April and continued through the second week of July, but the bulk was seeded in May. Emergence began the third week of April and continued through June with some of the latest seeding emerging in July.

#### REPORTED SEEDING AND EMERGENCE OF OATS AND BARLEY

MONTH AND WEEK	OATS				BARLEY			
	SEEDING COMPLETED		EMERGENCE		SEEDING COMPLETED		EMERGENCE	
	Number Cases Each Week	Cumulative Cases Each Week	Number Cases Each Week	Cumulative Cases Each Week	Number Cases Each Week	Cumulative Cases Each Week	Number Cases Each Week	Cumulative Cases Each Week
APRIL								
1- 7.....	....	....	....	....	2	2	....	....
8-15.....	16	16	....	....	2	4	....	....
16-23.....	12	28	9	9	9	13	3	3
24-30.....	17	45	8	17	12	25	5	8
MAY								
1- 7.....	25	70	14	31	10	35	6	14
8-15.....	39	109	27	58	23	58	18	32
16-23.....	21	130	20	78	12	70	11	43
24-31.....	15	145	17	95	9	79	11	44
JUNE								
1- 7.....	7	152	18	113	5	84	12	56
8-15.....	4	156	8	121	3	87	9	65
16-23.....	2	158	4	125	2	89	2	67
24-30.....	....	....	1	126	....	....	2	68
JULY								
1- 7.....	....	....	3	129	1	90	....	....
8-15.....	....	....	....	....	1	91	1	69
16-23.....	....	....	....	....	....	....	....	....
24-31.....	....	....	....	....	....	....	1	70

Seeding of flax was reported beginning as early as April 8-15 but very little of the work was done until the second week of May. The seeding rate was fairly heavy the rest of May and through the second week in June when it ended rather abruptly. The earliest flax bloomed about the third week of June, but the main crop started the first week in July, reached a peak the second week of July with fairly large weekly proportions for later seedings continuing through July and the first two weeks of August.

#### REPORTED STAGES OF GROWTH OF THE FLAX CROP

MONTH AND WEEK	SEEDING COMPLETED		CROP EMERGED		CROP BLOOMED	
	Number Cases Each Week	Cumulative Cases Each Week	Number Cases Each Week	Cumulative Cases Each Week	Number Cases Each Week	Cumulative Cases Each Week
<b>APRIL</b>						
8-15.....	1	1	....	....	....	....
16-23.....	1	2	1	1	....	....
24-30.....	....	....	....	....	....	....
<b>MAY</b>						
1- 7.....	3	5	1	2	....	....
8-15.....	10	15	2	4	....	....
16-23.....	6	21	3	7	....	....
24-31.....	11	32	7	14	....	....
<b>JUNE</b>						
1- 7.....	12	44	12	26	....	....
8-15.....	9	53	12	38	1	1
16-23.....	1	54	3	41	1	2
24-30.....	....	....	2	43	....	....
<b>JULY</b>						
1- 7.....	....	....	1	44	6	8
8-15.....	....	....	1	45	12	20
16-23.....	....	....	....	....	4	24
24-31.....	....	....	....	....	5	29
<b>AUGUST</b>						
1- 7.....	....	....	....	....	2	31
8-15.....	....	....	....	....	2	33

#### WEEKLY RAINFALL AT SELECTED POINTS DURING SEEDING AND EMERGENCE PERIODS

(Inches and Hundredths)

MONTH AND WEEK	Kalispell	Missoula	Cuthank	Havre	Great Falls	Bozeman	Billings	Glasgow	Miles City	Glendive
<b>APRIL</b>										
1- 7.....	*	.25	.39	.28	.18	.17	.12	.00	.02	.09
8-15.....	.05	.07	.10	.01	.20	.08	.10	.17	.37	.51
16-23.....	.18	.12	.37	.03	.21	.43	.22	.02	.11	.03
24-30.....	.41	.28	.14	.37	.39	.43	.06	.28	.20	.01
Total April.....	0.64	0.72	1.00	0.69	0.98	1.11	0.50	0.47	0.70	0.64
<b>MAY</b>										
1- 7.....	.12	.00	.22	.33	.22	.17	.05	.00	.27	.00
8-15.....	.39	.15	.27	.80	.23	.43	.19	.85	.23	.13
16-23.....	.00	.10	.02	.00	.00	.00	.00	.00	.05	.00
24-31.....	.18	.16	.20	.77	.50	1.38	1.01	.37	1.68	3.54
Total May.....	0.69	0.41	0.71	1.90	1.00	1.98	1.25	1.22	2.23	3.67
<b>JUNE</b>										
1- 7.....	.24	.34	1.40	1.42	1.18	.12	.02	2.24	1.82	2.95
8-15.....	.29	1.30	.91	.36	.10	1.12	.20	.47	.92	2.91
16-23.....	.40	.49	.35	.57	.98	1.53	.80	.42	.20	.13
24-30.....	.00	.00	.00	.15	.00	.07	.04	.00	.00	.00
Total June.....	0.93	2.13	2.66	2.50	2.26	2.84	1.06	3.13	2.94	5.99
<b>JULY</b>										
1- 7.....	.03	.01	.76	.14	.72	.85	.60	.00	.14	.10
8-15.....	.09	.05	.05	.00	.06	.16	.16	.10	.23	.04

\*Trace.

**NUMBER OF DAYS EACH WEEK DURING FLOWERING PERIODS WITH TEMPERATURES  
OF 90 DEGREES OR HIGHER**

<b>JUNE</b>										
24-30.....	0	1	0	1	2	0	3	3	2	2
<b>JULY</b>										
1- 7.....	0	2	1	2	3	0	3	3	1	2
8-15.....	1	3	2	2	2	0	4	4	3	4
16-23.....	1	5	2	7	6	0	8	8	8	8
24-31.....	4	5	4	6	6	2	6	8	7	8
<b>AUGUST</b>										
1- 7.....	0	3	0	2	2	0	3	2	2	2
8-15.....	1	5	1	4	5	1	8	5	5	6
16-23.....	0	1	1	4	3	0	7	5	4	7
24-31.....	3	5	2	6	4	0	5	6	5	6

## HAY

Production of both tame hays and wild hays has fallen off steadily since 1927 in which year 2,706,000 tons of tame hay and 995,000 tons of wild hay or a total of 3,701,000 tons gave the state its peak in hay production.

Total production of tame hays in 1929 was 2,050,000 tons which was cut from 1,446,000 acres, making the average yield per acre 1.42 tons. In 1928 an acreage of 1,294,000 with an average yield of 1.98 tons per acre produced 2,558,000 tons of tame hay.

Production of wild hay in 1929 was 477,000 tons from 636,000 acres which made an average yield of 0.75 tons per acre. In 1928 from 606,000 acres and a yield of 0.90 tons per acre the state production of wild hay was 545,000 tons.

Total production of hay in 1929 was 2,527,000 tons compared with 3,103,000 tons in 1928 and 3,701,000 tons in 1927. Acreage of all hay in these years was; 2,082,000 in 1929; 1,900,000 in 1928 and 2,139,000 in 1927.

Acreage, yield per acre and total production of tame hay by varieties for 1929 and 1928 are shown in the following table.

Variety	ACREAGE		ACRE YIELD (tons)		PRODUCTION (tons)	
	1929	1928	1929	1928	1929	1928
Timothy .....	106,000	106,000	1.05	1.50	111,000	159,000
Clover and Timothy mixed.....	189,000	162,000	1.10	1.80	208,000	292,000
Alfalfa .....	744,000	689,000	1.85	2.35	1,376,000	1,619,000
Grain Hay .....	235,000	168,000	.80	1.30	188,000	218,000
Sweet Clover .....	60,000	67,000	1.20	1.90	72,000	127,000
Miscellaneous .....	112,000	102,000	.85	1.40	95,000	143,000
<b>ALL TAME HAY.....</b>	<b>1,446,000</b>	<b>1,294,000</b>	<b>1.42</b>	<b>1.98</b>	<b>2,050,000</b>	<b>2,558,000</b>
<b>WILD HAY .....</b>	<b>636,000</b>	<b>606,000</b>	<b>.75</b>	<b>.90</b>	<b>477,000</b>	<b>545,000</b>
<b>TOTAL HAY .....</b>	<b>2,082,000</b>	<b>1,900,000</b>	<b>1.21</b>	<b>1.63</b>	<b>2,527,000</b>	<b>3,103,000</b>

## OATS

Oats production in 1929 was 9,418,000 bushels from an acreage of 554,000 and an average yield of 17.0 bushels. In 1928, 20,221,000 bushels was harvested from 554,000 acres with an average yield of 36.5 bushels per acre. The decrease in oats production was a result of drought conditions setting in soon after planting time and before the young plants had strength enough to survive a definite drought period.

Oats production in 1929 was the lowest in 11 years. Along with decreasing numbers of horses in recent years and increasing numbers of dairy cows and hogs there has been evident a downward trend of oats production and an increase of other feed crops, especially barley.

## BARLEY

Barley acreage in 1929 increased about 20 per cent over that of 1928. Acreage in 1929 was placed at 251,000 compared with 209,000 in 1928 and 195,000 acres in 1927. During the past decade barley has been steadily growing in favor with stockmen as a feed grain with the result that barley acreage has grown at the expense of oats acreages. In 1920 barley acreage was but 64,000 acres or about 12 per cent of the oats acreage. In 1924 barley acreage was 18 per cent of the oats acreage; 37 per cent in 1928 and 45 per cent in 1929.

Production of barley in 1929 was 4,016,000 bushels compared with 6,374,000 bushels in 1928 and 6,435,000 bushels in 1927. The average yield in 1929 was 16.0 bushels per acre and compares with 30.5 bushels per acre in 1928, and 33.0 bushels per acre in 1927. The low yield per acre in 1929 is accounted for by the extreme drought conditions that prevailed during the growing season.

## FLAX

Flax production in Montana in 1929 was 938,000 bushels compared with 1,556,000 bushels in 1928. Acreage harvested, however, placed at 293,000 in 1929 was about 60 per cent larger than the revised acreage for 1928. Yield per acre on the other hand averaged 3.2 bushels in 1929 against an average of 8.5 bushels in 1928. However, due to prices being higher in 1929 (\$2.80 as against \$1.92 in 1928) the total value for the 1929 crop was almost as much as for the 1928 crop, or \$2,626,000 in 1929 against \$2,988,000 in 1928.

The average value per acre for the crop in 1929 was \$8.96 or a little more than half the 1928 acre value of \$16.32. The average value per acre of the crop in 1929 was only slightly under that of wheat, which was \$9.12.

Montana was fourth among flax producing states in 1929, production being outranked by Minnesota and the two Dakotas. Most of the crop is grown in the northeastern and eastern portions of Montana, where drought conditions in 1929 were the worst. The harvested yield was well below the 10-year average of 5.5 bushels. The large increase in acreage in 1929 was probably due to the late cold spring which delayed seeding of other grain crops until it was too late for anything but flax.

## RYE

Rye acreage in Montana in 1929 declined about 28 per cent. Yields per acre averaged somewhat lower in 1929 due to drought conditions during the summer growing season. In 1929, 1,221,000 bushels were produced from 111,000 acres with an average acre yield of 11.0 bushels. The 1928 crop, from a harvested acreage of 154,000 acres with an average acre yield of 14.0 bushels, was 2,156,000 bushels. The average farm price was only 3 cents higher in 1929 than in 1928, the December price being 72 cents per bushel in 1929 and 69 cents in 1928.

## ALFALFA SEED

Montana ranks fourth in the production of the nation's supply of alfalfa seed. Production of alfalfa seed in 1929 was just a half again as large as in 1928, or 72,000 bushels (5,320,000 pounds) which was produced from 30,000 acres with an average yield of 2.4 bushels per acre. The increase in production in 1929 was brought about as a result of a 50 per cent increase in acreage with the yield per acre remaining about the same as in 1928, or 2.4 bushels, which on 20,000 acres in that year gave a production of 48,000 bushels (2,880,000 pounds). Prices paid to growers for the 1929 crop averaged about \$11.50 per bushel. This was about \$2.40 less than was received in 1928 per bushel.

Nearly half of Montana's alfalfa seed production comes from growers of registered Grimm and Cossack. The quality of Montana grown alfalfa seed is generally recognized and the crop usually finds a ready market outside of the state.

The outlook for the 1930 crop of alfalfa seed, both nationally and locally, is encouraging. The carryover is considerably smaller than last year although the fall demand was somewhat lighter than a year ago. Because of unfavorable climatic conditions during the fall of 1929 much of the acreage intended for fall sowing will undoubtedly be sown in the spring of 1930, which will reduce the carryover still more, and thus effect in part or entirely a possible curtailment in the demand for alfalfa seed because of relatively low clover seed prices. Imports (1,146,000 pounds) for the past fiscal year were larger than in 1928 but were about one-sixth the average for the preceding five years.

## CLOVER SEED

Montana produces little red or alsike clover but up until 1929 had been steadily increasing her acreage of sweet clover seed for both local demand and the outside market. In 1929 from an acreage of 3,000 acres Montana produced 13,500 bushels of sweet clover seed. In 1928 from 7,000 acres the production was 31,500 bushels. The average yield per acre in 1928 was the same as in 1929 or 4.5 bushels per acre. Prices paid to growers averaged about \$4.30 per bushel for both the 1928 and 1929 crops.

Although nationally the 1929 crop was only slightly larger than the 1928 crop, growers were again cautioned in the spring of 1930 not to increase their sweet clover seed acreage as production for a number of years has been running ahead of consumption, resulting repeatedly in large carryovers and low returns to the growers. Doubtless low prices for three consecutive years will discourage many from harvesting a seed crop this year unless storms and early frosts should greatly reduce yields in the heaviest producing areas and raise prices sharply. Imports from July 1, 1929, to the end of the year were unusually small, much below the average, and are expected to continue small for the first half of 1930 or longer.

## SUGAR BEETS

Acreage of sugar beets harvested in Montana in 1928 was placed at 37,000 acres compared with 28,000 acres in 1928. The average yield per acre in 1929 was higher than the 1928 yield, being reported at 9.7 tons per acre compared with 9.2 tons per acre the preceding year. Total production on this basis was placed at 362,000 tons in 1929 and 258,000 tons in 1928. The long, dry summer was conducive to the rapid growth of the beets and this resulted in the higher yield.

There are now four factories operating in Montana. The Utah-Idaho company is located at Chinook, the Amalgamated Sugar company, at Missoula; the Great Western Sugar company at Billings and the Holly Sugar corporation at Sidney.

## BEANS

Again Montana ranks seventh place in national production of edible beans. The bulk of Montana's crop is made up of the Great Northern variety in which the principal competition comes from Idaho and Wyoming. Average yield per acre and production for the three states in 1929 and 1928 were as follows:

State	1929			1928		
	Acreage	Yield	Production	Acreage	Yield	Production
Montana .....	50,000	10.5	525,000	40,000	14.5	580,000
Idaho .....	92,000	23.0	2,116,000	86,000	19.0	1,634,000
Wyoming .....	26,000	18.5	481,000	24,000	15.0	360,000

Bean yields in Idaho and Wyoming were higher in 1929 than in 1928 while in Montana they were considerably lower. This is accounted for by the fact that a large percentage of Montana's bean crop is grown on non-irrigated land and consequently yields were greatly reduced by the 1929 drought. Idaho and Wyoming grow more of their bean crop on irrigated land.

Acreage and production in all three states increased in 1929 with the exception of production in Montana which was reduced below that of 1928 by the low average yield.

## NATIONAL BEAN PRODUCTION IN 1929

A crop of 19,337,000 bushels of dry edible beans was grown in 1929 in the states that produce beans on a commercial basis. This quantity is 1,680,000 bushels greater than the crop of 1928 when net imports of about a million bushels additional were required to meet domestic needs. National production of beans in 1928 aggregated 17,656,000 bushels and in 1927, 16,181,000 bushels. Average production of all beans during the five years 1924-1928 was 17,327,000 bushels. Supplemented by net imports the average annual supply for domestic consumption during this 5-year period was about 18,000,000 bushels. Consumption of beans, however, tends to increase at the rate of about 500,000 bushels annually. During the period July 1, 1928, to July 1, 1929, a net total of 18,550,000 bushels moved into consumptive channels. The total United States production of 19,337,000 bushels in 1929 is closely in line with present domestic requirements.

The December 1 average price to producers in the United States for their 1929 crop was \$3.77 per bushel, compared with \$4.18 in 1928, and \$2.88 in 1927. In Montana, growers on this date were receiving an average of \$3.60, compared with \$3.85 a year ago, while in Idaho the price to growers was \$2.75 compared with \$3.60 a year ago, and in Wyoming \$3.10, compared with \$3.40 last year.

## SEED AND CANNING PEAS

Due to fairly attractive prices being offered by seed houses and canners, acreages of seed and canning peas increased about 25 per cent over those of 1928. Yields were somewhat below those obtained in 1928 but production and total value reflected the increased acreage and better prices.

The total value of pea production for both seed and canning peas was \$1,046,000 in 1929, compared with \$873,000 in 1928, and \$687,000 for the 1927 crop.

Acreage of seed peas declined from 28,000 acres in 1925 to 14,000 acres in 1927, but increased again in 1928 to 19,000 acres, and in 1929 the acreage was placed at 24,000. The acreage of canning peas increased from 2,800 acres in 1927 to 4,200 acres in 1929. Further increases in seed pea acreage will probably result if the 1930 contract prices are as favorable to growers as were those in 1929. Practically all the seed peas grown in the state after the canning acreage demand is met, are shipped to other states.

Three factories are now located in Montana and are at Bozeman, Red Lodge and Stevensville. Montana conditions are favorable for the production of both seed and canning peas, offering a cash crop to irrigated farmers in the higher valleys of south central and western Montana.

## CORN

Corn acreage in 1929 increased about 10 per cent over that of 1928. Acreage harvested in 1929 was estimated at 301,000 acres against 274,000 acres in 1928; 305,000 in 1927; 359,000 in 1926 and 420,000 in 1924, which was the peak of the upward trend in corn acreage that set in immediately after the close of the war.

Acre yields in 1929 fell below those of 1928 due to drought conditions in the large corn producing areas, that is, eastern and northeastern Montana. Yield for the state was estimated at 12.0 bushels compared with 19.0 in 1928 and the 10-year average of 17.6 bushels.

Quality of the 1929 crop, while somewhat above that of the year previous, was still below the 10-year average. Reporters' estimates for 1929 gave 54 per cent of the crop of grain corn as being of merchantable quality compared with 49 per cent in 1928 and the 10-year average of 66 per cent.

The bulk of the corn acreage in Montana is usually cut for forage, grazed or hogged off, the percentage utilized in this manner being reported as 62.0 per cent in 1927 with 4.0 per cent being cut for silage and 34.0 per cent cut for grain.

Utilization of corn acreages in Montana for the years during which this data was collected is shown herewith:

**UTILIZATION OF CORN ACREAGE IN MONTANA**  
(Based on averages supplied by crop reporters for their localities)

Year	For Grain	For Silage	For Forage Cut For Feed or Hogged Off
	%	%	%
1923.....	53.0	2.0	45.0
1924.....	35.0	4.0	61.0
1925.....	30.1	2.9	67.9
1926.....	23.0	3.0	74.0
1927.....	34.0	4.0	62.0

## POTATOES

Production of potatoes in Montana in 1929 fell below that of 1928 by about 53 per cent, while there was only a decrease of 11 per cent in the acreage. The 1929 crop as finally estimated was 1,980,000 bushels which were produced from 33,000 acres with an average acre yield of 60 bushels. The 1928 crop was 4,255,000 bushels which were produced from 37,000 acres making the average acre yield 115 bushels.

The season started very favorably but the severe drought conditions that began in the early part of the summer caught the plants before the tubers had set and the potatoes on non-irrigated land generally gave a very low yield. Since 67 per cent of the state potato crop is grown on dry land the average yield was about half that of 1928. Potatoes under irrigation yielded almost as heavily as in 1928.

The December 1, average price to growers for their 1929 potatoes was \$1.70 per bushel compared with an average of 55 cents per bushel on December 1, 1928. Due to the higher price the value of the 1929 crop exceeded that of the 1928 crop by \$1,026,000, or a total value of \$3,336,000 for the 1929 crop against the value of \$2,340,000 for the 1928 crop.

### SUMMARY OF POTATO RAIL SHIPMENTS BY CROP YEARS

Crop	Total Production (bushels)	Number Cars Shipped	Per cent of Total Crop Shipped	Price December First
1923.....	3,960,000	757	11.4	\$0.65
1924.....	2,992,000	420	8.4	0.87
1925.....	3,780,000	1,509	23.9	1.60
1926.....	2,975,000	886	17.8	1.20
1927.....	4,860,000	1,376	19.8	0.65
1928.....	4,255,000	756	10.7	0.55
1929.....	1,980,000	316*	.....	1.70

\*Movement to April 22, 1930.  
Shipping season August 1 to June 30.

Unfavorable market conditions, which came about as a result of the continued increase in acreage and yield from 1925 to 1928 caused the percentage of total crop shipped in that year to fall to 10.7 compared with 19.8 per cent in 1927 and the 5-year average of 15.3 per cent. Total shipments of the 1929 crop will be reduced compared with the 1928 crop but the percentage of the crop that is shipped will be materially increased, due to prevailing high prices and favorable market conditions.

## NATIONAL POTATO SITUATION

During the 10 years preceding 1925 the potato acreage in the United States showed a downward trend. However, a steady increase in yields more than offset this decrease in acreage so that the total production increased each year while prices showed a downward trend. The 1925 acreage was smaller than any in the preceding 10 years and the average farm price was higher than at any time during that period. From 1925 to 1928 the acreage was increased each year, yield and production were increased and prices were lower each year until the low level of 1928 was reached. Stocks of old potatoes on hand always have an important bearing on the outlook for the early potatoes of the coming crop season



as well as the future marketings from the crop of that particular year. Stocks of potatoes on hand January 1, 1930, were probably about three-fifths of the quantity on hand January 1, 1929, and were probably the lowest since January 1, 1926. As the relatively light holdings on January 1, 1930, will probably find outlets at good prices the on-coming crop will have a very short carryover to contend with.

## APPLES

Montana's production of apples in 1929 fell about 19 per cent below that of 1928 when production exceeded that of any year since 1923, the December estimate being placed at 420,000 bushels compared with 516,000 bushels in 1928. The commercial apple crop for 1929 was estimated at 125,000 barrels compared with 150,000 barrels in 1928.

Prices to growers in 1929 were somewhat more favorable than those received in 1928, the average farm price on December 1 being \$1.30 per bushel compared with \$0.90 a year ago. The total value based on the December 1 average farm value was \$546,000, compared with \$464,000 in 1928.

Shipments from the 1929 crop on March 15th, or the close of the shipping season, had reached 391 cars compared with 527 cars last year. (Shipping season August 20 to March 15th.)

MONTANA APPLE PRODUCTION 1923-1929

Year	Total Production (bushels)	Cars Shipped By Rail
1923.....	990,000	451
1924.....	290,000	173
1925.....	80,000	29
1926.....	325,000	349
1927.....	295,000	149
1928.....	516,000	527
1929.....	420,000	391

## APPLE OUTLOOK IN THE UNITED STATES

Commercial production of apples in the United States will probably continue to increase gradually for several years. However, the apple industry has recovered largely from the disturbed conditions which accompanied the rapid expansion of planting in the northwest and elsewhere 20 to 25 years ago, and the rate of increase in commercial production is expected to be less than during the years when these plantings affected production the most. The extent to which the industry has recovered and the tendency toward more moderate plantings in recent years is encouraging to the efficient commercial grower who produces fruit of high quality. But the large number of relatively young trees now planted indicates an increase in commercial production over a period of years as well as heavy production and low prices when weather and growing conditions are especially favorable throughout the apple areas. Notwithstanding the low production and the relatively good prices of 1927 and 1929, commercial plantings appear to be justified only where unusually favorable conditions exist for the economical production of good quality fruit.

Evidence each year becomes more convincing that production in the northwest is near its peak. Yearly production in the boxed apple states during the last four years was 80 per cent higher than the average of 10 to 15 years ago, but only 4.5 per cent higher than the average 4 to 8 years ago. At the beginning of 1928 only 13 per cent of the trees reported in the survey of commercial orchards of the four principal western apple states, viz., Washington, Oregon, Idaho and California, were under 9 years of age. Recent plantings have been light and the removals in the less favorable sections have continued. About 70 per cent of the trees in the commercial orchards of these 4 states are less than 20 years old, but in the west as a whole no material increase in production is in sight. The boxed apple states contribute a large part of the increase in the commercial apple

production in the United States. Production in these states increased from about 19,000,000 bushels per year during the period 1903-1913, to about 55,000,000 bushels annually during the years 1925-1929.

## CHERRIES

Sour cherries of the Montmorency and Morelli varieties grown for canning purposes in the Bitter Root valley and packed at Hamilton and Stevensville and a small commercial acreage of sweet cherries of the Bing and Lambert varieties grown along the shores of the Flathead lake make up the commercial cherry crop of Montana. Production is practically limited to that part of Montana west of the Continental Divide.

In 1929 the pack of sour cherries was about 125 tons which, on a fresh fruit basis, was about 198 tons compared with 67 tons on the same basis in 1928, and 260 tons in 1927. Allowance for local and other consumption of sour cherries places the 1929 production at about 218 tons compared with 80 tons in 1928.

Production of sweet cherries in 1929 was about 84,000 pounds compared with 80,000 in 1928 and 40,000 pounds in 1927. Practically all of this production originates from the orchards along the shores of the Flathead lake.

Total production of cherries for Montana in 1929 was estimated at 260 tons compared with 120 tons in 1928; 300 tons in 1927; 336 tons in 1926; 260 tons in 1925; and 200 tons in 1924. The census of 1920 found a total of 65,633 bearing trees and 4,073 trees of non-bearing age. The large bulk of these trees were found in counties making up the Bitter Root and Flathead valleys of western Montana.

The present trend of production of both sour and sweet cherries is upward. In the case of sour cherries the canning factories have taken practically the entire production during the last four years. Planting of sour cherries during this period have averaged about 50,000 trees each year, according to the state horticulturist.

## STRAWBERRY PRODUCTION IN MONTANA

Nineteen-twenty-nine, due to a late cold spring and later drought, was a season unfavorable for strawberry production in Montana and resulted in an estimated crop of 225,000 quarts compared with 450,000 quarts in 1928. For the 1929 crop Montana growers took about the same prices as in 1928 in spite of the shorter state crop, a large national crop tending to hold down the 1929 prices.

The total value of the 1929 crop was about \$32,000 compared with \$65,000 which strawberries returned to Montana growers in 1928.

## NATIONAL OUTLOOK FOR STRAWBERRY GROWERS IN 1930

Prospects for strawberry growers now seem to be better than in any year since 1926. With material decreases in acreage among the second early and intermediate sections and only a moderate increase in picking in 1930 in the early states, the marketing problem should be greatly relieved this season, provided yields are not above average and the ripening periods are normal.

Not only are smaller acreages in prospect for 1930 but there is a likelihood that lower yields per acre will occur in some districts. Old fields in a number of districts are in relatively poor condition because of drought last season and lack of care following low prices. Tentative reports indicate little change in the 1930 acreage in the late states compared with recent years.

# LIVESTOCK SECTION

## GENERAL REVIEW FOR 1929

The year 1929 was characterized by a severe summer drought which apparently forced larger marketings of both cattle and sheep than would otherwise have probably occurred. The forced marketings came both as a result of short feed supplies as well as in sales of livestock by farmers to supplement a reduced income from cash crops compared with 1928.

The drought did not affect the early summer range either as to quantity or quality of feed, preceded as it was by favorable June moisture. Deterioration of ranges, however, began in the late summer and continued through the fall by which time water supplies were becoming short. Cattle and sheep coming off range feed were generally reported in good flesh, especially the early turnoffs.

Drought generally reduced hay crops and fall range feed to a point where many stockmen felt obliged to reduce holdings. Some farm cattle and sheep were also sold as a result of the reduced income of growers from grain and other cash crops.

On the other hand, both the calf crop and the lamb crop in 1929 were larger than in 1928, and under more favorable feed conditions would probably have resulted in a gain in cattle numbers and a larger gain in sheep holdings.

In case of swine, the spring pig crop was slightly larger than in 1928, and the 1929 fall pig crop was the largest in several years. Prices for hogs through most of the 1929 season were also better than in 1928. Under these conditions the 1929 marketings have been the largest in several years. Although present numbers of swine are about equal to those of a year ago, the number of breeding stock is somewhat smaller and the number of market hogs and pigs somewhat larger.

## MARKETINGS OF MONTANA LIVESTOCK IN 1929

During 1929, Montana growers shipped about 327,000 head of cattle and calves; 210,000 head of hogs; 350,000 head of sheep and 1,378,000 head of lambs, as indicated by available market and railroad records. The final marketing records for 1928 show comparable shipments of 344,000 head of cattle and calves; 153,000 head of hogs; 365,000 head of sheep and 1,075,000 head of lambs. Estimated total value of the shipments plus farm and local slaughter at prices prevailing through the season was about \$49,901,000 in 1929, compared with \$45,531,000 in 1928 and \$40,085,000 in 1927.

## MONTANA ANNUAL LIVESTOCK SUMMARY OF NUMBERS AND VALUES

Total numbers of cattle, sheep, swine, horses and mules in Montana on January 1, this year, were placed at 5,904,000 head worth \$118,309,000, compared with 5,733,000 head worth \$130,264,000 a year ago and 5,302,000 head worth \$109,405,000 two years ago, according to the annual livestock estimates of the State-Federal Crop Reporting Service.

The increase of 3 per cent in present numbers compared with a year ago was brought about by increased sheep numbers, cattle, hogs and mules showing no change compared with a year ago, and horses showing a slight decline.

The decline in total value of present livestock holdings compared with a year ago reflects the lower values per head for all classes of stock. In this decline, sheep values show the greatest proportional loss. The present average value per head of \$9.30 being about 19 per cent lower than the average of \$11.40 a year ago and about 15 per cent below the average value of \$11.00 per head two years ago. It was likewise lower than any January 1 value since 1924 when the average was \$8.70 per head.

The average value per head of cattle and calves on January 1, 1930, was

\$54.10, or about 9 per cent lower than a year ago when \$58.10 was reported, and was the highest value since January 1, 1919. Compared with two years ago present values per head for all cattle, unlike sheep, are about 26 per cent higher and are likewise relatively much higher than any year preceding 1927 back to 1919.

The average value of hogs on January 1, 1930, at \$12.60 per head, was only moderately lower than that of a year ago but well under the average of \$14.30 per head reported two years ago.

## LIVESTOCK NUMBERS IN THE UNITED STATES

A continued decline in the horse population; a slight increase in numbers of all cattle; a fair increase in sheep and decreased swine numbers characterize the January 1, livestock estimates for the United States as issued by the crop reporting board.

The report shows also a slight increase in the number of milk cows and larger numbers of heifers under two years old being kept for milk cows.

Average values of livestock in the United States on January 1, 1930, show slight gains over a year ago in case of horses, mules and swine, a moderate reduction in value per head of all cattle and a rather sharp reduction in the average value per head of sheep and lambs.

## SWINE

Montana's hog numbers have been growing steadily since 1926 rising from 250,000 head on January 1 of that year to 328,000 on January 1, 1929. Increase and decrease factors during 1929 left the January 1, 1930, number practically unchanged, but the breeding stock represented in the present total is somewhat less than a year ago.

Total spring and fall pig crops in 1929 were about 8 per cent larger than in 1928. Marketings in 1929 were considerably larger than in the preceding year. Producers generally encountered a more favorable year than in 1928 as indicated by the total income from hogs which was \$7,110,000 in 1929, compared with \$5,262,000 in 1928.

## POULTRY

Poultry growers did not find 1929 as profitable a year as 1928, especially turkey growers. Cold damp weather conditions during the early hatching season were unfavorable for saving the young poults and for developing those which survived. Later a hot, dry summer interfered with green feed and otherwise hampered poultry growers. Disease losses were about usual in case of chickens and a little larger in case of turkeys.

Prices for chickens and eggs compared favorably with the preceding year throughout most of 1929, although breaking sharply below 1928 averages during the closing months of 1929. In case of turkeys a big national crop resulted in Montana growers receiving less for 1929 turkeys from the start. Later prices went even lower compared with those of 1928.

Poultry income in Montana in 1929 was estimated at \$4,098,000, compared with \$4,314,000 in 1928 and \$4,188,000 in 1927.

## MULES

Montana has a small mule population which has shown a slight increase in recent years. The census of 1920 found 9,000 mules in the state and the present number is estimated at 11,000 head.

## HORSES

Montana's horse population in 1929 continued the downward trend that has been apparent since 1923. The present numbers of horses at 500,000 head represents the smallest horse inventory since 1915. Breeding of Montana horses for export from the state has practically ceased with the collapse of the demand that developed during the World war. Breeding for replacement of work stock has also decreased in recent years as the automobile and the tractor have been displacing the horse in Montana's crop production. Large numbers of unclaimed horses still run on the range in Montana, but these horses have been declared a nuisance by state law and are gradually being eliminated by both natural decrease in winter seasons and by slaughter for canning.

### NUMBER OF HORSES IN MONTANA

1870.....	5,300	1920.....	669,000
1880.....	36,000	1925.....	590,000
1890.....	216,000	1928.....	531,000
1900.....	347,000	1929.....	515,000
1910.....	319,000	1930.....	500,000

## BEES AND HONEY

Both production and value of honey and wax in Montana in 1929 were lower than in 1928.

### BEES AND HONEY PRODUCTION

Year	BEES		HONEY		WAX	
	No. Farms	No. Hives	Produced (pounds)	Value \$	Produced (pounds)	Value \$
1909 .....	795	6,313	135,510	21,802	394	133
1919 .....	1,199	11,918	630,608	157,656	7,682	2,614
1926 (est) .....	1,800	37,000	3,150,000	302,000	23,000	9,000
1927 .....	1,800	37,000	2,500,000	262,000	20,000	6,000
1928 .....	1,800	37,000	2,740,000	274,000	22,000	7,000
1929 .....	1,800	37,000	2,300,000	245,000	17,000	5,000

## CATTLE EXPORTS 1920-1929

Records of the Montana office of brand inspection show the following classification of Montana cattle exports as steers, cows, calves and bulls for the period 1920 to 1929 inclusive.

Year	Steers %	Cows %	Calves %	Bulls %	Total Head Classified	Total Exports (head)
1920.....	54.4	40.7	3.1	1.7	190,614	211,000
1921.....	78.5	16.9	3.4	1.2	111,739	147,000
1922.....	65.3	29.3	4.0	1.5	217,821	246,000
1923.....	55.0	37.2	6.0	2.0	258,040	343,000
1924.....	58.0	35.0	5.0	2.0	266,678	321,000
1925.....	51.4	41.1	5.7	1.7	335,408	407,000
1926.....	44.7	45.4	8.6	1.3	402,608	504,000
1927.....	52.2	41.9	4.5	1.4	254,755	330,000
1928.....	54.6	38.4	5.2	1.8	271,947	344,000
1929.....	53.3	38.0	7.1	1.6	267,299	329,000

## FUR FARMING IN MONTANA

Fur trapping, which in the ante-territorial days of the early part of the 19th century, drew to Montana hundreds of adventuresome frontiersmen in their ambition to profit by the taking of the pelts of the beaver and other fur bearing animals with which the northwest teemed, is rapidly being replaced by the fur farming industry in which hundreds of thousands of dollars have been invested and from which more than a half million dollars was derived in pelts during 1929.

The climatic conditions of Montana and its freedom from the diseases which affect wild animals in captivity has proved it to be a state offering the very

best opportunity for the production of high quality furs. It is believed that the number of fur farms of Montana practically doubled during 1929, and additional farms are constantly being installed.

These farms are scattered well over the state with locations in more than half of the 56 counties. Probably the best successes have been made in the raising of silver black foxes, to which many of the fur farmers devote their energies, although quite a number are breeding blue foxes. While many of the farms specialize in one kind of animal, most of them include several types of fur animals in their production schemes.

Many, but not all, of the fur farmers have associated themselves into an organization, the Montana Fox and Fur Breeders association, which has a membership of 33. These farms are carrying about 300 pairs of silver black foxes and 100 blue foxes for breeding stock and their 1929 income for pelts alone was approximately \$200,000.

Alaskan foxes are raised on some farms. Many muskrat farms are scattered about the state. At the close of 1929 the fur farms licensed under the state fish and game commission totalled 204, their permits including 21 different types of fur bearing animals. This number does not cover all the farms of the state as many find it unnecessary to take licenses because of not engaging in the raising of animals which have been taken under the jurisdiction of the commission.

By reason of the combination of various types of production the licenses issued by the game commission indicate 52 different combinations. Of these 204 farms 117 raise mink, 81 muskrat, 47 marten, 43 foxes, 33 beaver, 13 raccoon, 6 rabbits, 5 fishers, 4 otter, 4 skunk, 4 badgers, 4 deer, and one each raising bear, lynx, elk and coyote. Four farms raise Chinese pheasants and one Canadian geese.

During 1929, exclusive of the pelts of predatory animals, Montana produced pelts marketed under permits from the state fish and game commission numbered as follows: Muskrats 123,196; beaver 7,388; mink 6,336; foxes 2,667; raccoons 1,955; marten 987; bears 281, and otters 34.

## **A RESUME OF THE NATIONAL OUTLOOK REPORT ON THE SHEEP INDUSTRY**

Sheep numbers in Montana during the past 10 years have increased from 2,230,000 head on January 1, 1921, to 3,913,000 head on January 1, 1930, which was a gain of 75.4 per cent. At the same time numbers in the United States increased 26.4 per cent from 38,690,000 head in 1921, to 48,913,000 head in 1930. Montana's wool production was 16,400,000 pounds in 1921, and 28,733,000 pounds in 1929, while the wool production in the United States (exclusive of pulled wool) rose from 235,129,000 pounds in 1921, to 308,947,000 pounds in 1929. Federally inspected slaughter of sheep and lambs rose from 10,982,000 head in 1920, to 14,023,362 head in 1929.

Estimates of world sheep numbers and wool production in complete form are not available for all countries. For 40 countries having 100,000 head of sheep and over, the 1928 numbers of sheep were 473,856,000 head compared with the 1921-1925 average of 389,363,000 head. For wool the estimated world total exclusive of Russia and China was 3,217,000,000 pounds in 1928, compared with 2,903,000,000 pounds in 1925.

From these comparisons is evident the expansion that has taken place in the sheep industry in Montana, the United States and internationally.

### **EXPANSION NEAR PEAK**

Expansion of the sheep industry has been accompanied during the past 10 years by rising prices both for wool and lambs, over the first half of the period

with peak prices reached in 1925. Since then prices have moved irregularly downward with a definite decline in 1929, especially for wool.

Most observers of the sheep industry agree that the high point in the expansion of sheep numbers in the United States has been reached. With lower price levels discouraging the holding back of ewe lambs it is expected that the yearly increase in flocks will soon go to increase the supplies of sheep and lambs for slaughter. Should this turning point come at a time when consumer demand is unfavorable it is hardly likely that the market can absorb the additional supply without a considerable reduction in price.

On the wool side, the increase in world production which has occurred in recent years is not expected to continue much further and some reduction is now expected by 1931. Present demand conditions are not favorable but are expected to improve in the last half of 1930, and to favorably affect the marketing of the 1930 clip.

The rising prices which encouraged the expansion of the sheep industry from 1921 to 1930, have already given way to lower levels which mean corresponding readjustments in breeding plans of sheepmen. Whether these readjustments are made gradually or suddenly will have an important bearing on the course of sheep and lamb prices during the next year or two.

Prices for wool in 1929 showed early weakness and while prices for lambs during the first half of the year were relatively strong during the last half of 1929, feeder lambs had declined on an average of 75 cents per hundred below prices paid in the same period in 1928.

## PROSPECTS FOR 1930 PRICES

World supply and demand conditions do not indicate much immediate improvement in the wool situation but if the expected revival in business conditions after the middle of 1930, takes place the demand for the 1931 wool clip should be affected favorably.

In case of sheep and lambs if the present number of breeding ewes is maintained and flock increases which have heretofore gone to increasing the numbers of breeding ewes are sold for market, the market will be called upon to absorb about two million head more than were slaughtered in the last marketing year, while any reduction of present stock sheep would increase market supplies still further. Any readjustment on part of sheepmen from a program of expansion of breeding ewes such as has taken place for the past several years, to merely maintaining these numbers would seem to indicate lower market prices for the increased market supplies resulting from such action. If in addition to increased market supplies from this source, there should be liquidation of holdings on part of high cost sheep producers the pressure on prices would be increased further.

The course of 1930 prices will be governed largely by the rate at which readjustments are made by sheepmen. Obviously such readjustments to the new slaughter level should be made as gradually as possible on part of sheep producers and with the cooperation of the credit agencies who are financing the industry, since curtailment of credit that would force liquidation might result in greater risks than would the policy of permitting an orderly readjustment of production.

## MORE DISTANT OUTLOOK

In the past, periods of low prices, such as those now prevailing for wool and as seem probable for lambs, have been followed by higher prices a few years later. Sheepmen would find it inadvisable to switch at this time from sheep to cattle since cattle prices are already declining and are expected to continue this trend for the next seven or eight years. Meanwhile an upward trend in lamb prices will in all probability be under way again before the next general advance in cattle prices begins.

## A RESUME OF THE 1930 OUTLOOK FOR BEEF CATTLE

The high phase of the cycle of beef cattle prices which has prevailed since the latter part of 1927 is expected to continue through 1930, but prices for all grades through the entire year of 1930 may be somewhat lower than those of 1929, according to the beef outlook report issued by the U. S. Department of Agriculture early this year.

Slaughter in 1930 will probably be about the same as in 1929 but demand in view of general business conditions is expected to be slightly less.

Total inspected slaughter of cattle in 1929 was 8,324,000 head or about 2 per cent less than in 1928, and slaughter of calves was 4,489,000 head or about 4 per cent smaller. The 1929 decrease in slaughter was in cows, heifers and calves, steer slaughter being larger than in 1928. The decrease in calf slaughter was largely in beef type calves.

### BEEF CATTLE NUMBERS BEGIN TO SHOW INCREASE

Total cattle numbers on farms in the United States on January 1, 1930, was 57,967,000. This was about 1,500,000 head or 2.7 per cent more than on January 1, 1929, and 2,291,000 more than in 1928, which was the low point in cattle numbers that accompanied the high point in the price cycle. The upward trend in cattle numbers promises to proceed at a moderate rate for the next year or two and may not be reflected in materially increased slaughter until the latter part of 1931. The slaughter for 1929 indicated that calves of beef type rather than steers were being held back to increase numbers, or, in other words, breeding stock was being increased.

Cattlemen who contemplate an expansion of their operations face the prospect that cattle numbers will be increased generally over the period of several years with a consequent lowering of prices. This increase in cattle numbers and attendant increase in slaughter may be modified somewhat by a normal expansion of domestic demand caused by growth of population, but it seems likely that the present high level of cattle prices will induce the usual expansion of the industry, leading within the next six or seven years to an over-production and a period of low prices and subsequent liquidation.

The immediate outlook for beef cattle is not discouraging to Montana producers. Market supplies of fed cattle during the first half of 1930 are expected to be about the same as in 1929. If there is any general move on part of dairy-men to cull their herds more closely than usual, market supplies of slaughter cattle other than fed stock during that period will be larger than in 1929.

During the second half of 1930, supplies of fed cattle will be determined to a large extent upon trend of cattle prices during the first four or five months of the year and by the trend of corn prices. The supply for the summer and fall of 1930 will probably include a larger proportion of light cattle than in 1929. Market supplies of grass fat cattle and dairy cattle during the last six months of 1930 will probably be no larger than in 1929, with slaughter of such cattle compared with 1929, depending upon the demand for stockers and feeders. Calf slaughter during the last half of 1930 will probably be smaller than in 1929.

The general average of prices in 1930 is likely to be only slightly lower than in 1929. Prices of better grades of fed cattle will probably follow their usual seasonal advance, although the high point of this advance may be reached later than in 1929. Prices of lower grade slaughter cattle, which will take a seasonal downward turn during the second half of 1930, are not apt to reach lower averages than in 1929.



# ESTIMATED CLASSIFICATION OF MONTANA LIVESTOCK JANUARY 1, 1870-1930

111655

Year	Milk Cattle	Other Cattle	All Cattle	Horses	Sheep	Swine	Mules
1870.....	12,400†	24,000†	36,400	5,300†	2,000†	2,600†	500†
1880.....	11,500†	162,000†	173,500	36,000†	185,000†	10,500†	900†
1883.....	14,000	590,000	604,000	39,900	405,000	17,000	900
1884.....	14,200	672,000	686,800	45,900	466,000	17,500	1,000
1885.....	23,000	615,000	638,000	105,000	625,000	19,000	2,800
1886.....	25,300	725,700	751,000	120,700	719,000	19,000	8,900
1887.....	29,000	812,800	841,800	129,000	755,000	20,000	9,200
1888.....	31,000	934,500	965,500	187,000	1,265,000	22,000	5,500
1889.....	31,400	962,600	993,900	200,000	1,391,000	23,000	5,300
1890.....	33,000	981,800	1,014,800	216,000	1,990,000	29,000	2,400
1891.....	34,000	932,700	966,700	152,000	2,089,000	35,000	1,800
1892.....	35,700	1,026,000	1,061,700	197,000	2,039,000	35,000	1,200
1893.....	36,400	1,036,000	1,072,400	207,000	2,528,000	39,000	1,200
1894.....	36,400	1,057,000	1,093,000	197,000	2,781,000	39,000	900
1895.....	39,000	1,078,000	1,117,000	198,000	2,809,000	46,000	900
1896.....	42,000	1,154,000	1,196,000	183,000	3,061,000	52,000	900
1897.....	43,000	1,177,000	1,220,000	175,000	3,123,000	51,000	900
1898.....	42,700	1,082,000	1,510,000	171,000	3,248,000	47,000	900
1899.....	44,000	953,000	997,000	165,000	3,378,000	42,300	1,000
1900.....	48,500†	926,500†	975,000†	347,000†	6,170,000†	50,000†	2,800†
1901.....	49,400	960,200	1,009,600	302,000	6,417,000	47,000	3,400
1902.....	50,000	998,000	1,048,000	275,000	5,081,000	49,000	3,400
1903.....	52,400	1,048,000	1,101,000	246,600	5,120,000	51,700	3,400
1904.....	53,900	1,059,000	1,112,900	244,000	5,270,000	54,800	3,400
1905.....	59,000	1,048,000	1,108,000	236,800	5,639,000	57,600	3,400
1906.....	61,600	965,000	1,026,600	239,000	5,752,000	59,900	3,600
1907.....	66,000	916,300	982,300	292,000	5,637,000	62,900	4,000
1908.....	69,000	879,000	948,000	292,000	5,524,000	66,000	4,000
1909.....	75,000	905,000	980,000	304,000	5,634,000	68,000	5,000
1910.....	80,000	842,000	922,000	319,000	5,747,000	75,000	5,000
1911.....	80,000*	818,000*	898,000	344,000	5,230,000*	124,000	4,500*
1912.....	91,000	732,000	823,000	350,000*	4,926,000*	145,000	5,000*
1913.....	95,000	950,000*	845,000	385,000*	4,675,000*	168,000*	5,500*
1914.....	104,000	826,000*	930,000	440,000*	3,850,000*	187,000*	6,000*
1915.....	114,000	836,000	950,000	485,000*	3,340,000*	245,000*	6,500*
1916.....	125,000*	1,035,000*	1,170,000	520,000*	3,020,000*	270,000*	7,000*
1917.....	140,000*	1,114,000*	1,254,000	580,000*	2,670,000*	260,000*	7,500*
1918.....	150,000*	1,310,000*	1,460,000	640,000*	2,380,000*	202,000*	8,500*
1919.....	163,500*	1,447,000*	1,610,000	720,000*	2,530,000*	180,000*	9,000*
1920.....	178,000	1,192,000	1,370,000	669,000	2,450,000	167,000	9,000
1921.....	181,000	1,088,000	1,269,000	669,000	2,328,000	160,000	9,000
1922.....	185,000	1,195,000	1,380,000	650,000	2,561,000	180,000	10,000
1923.....	192,000	1,168,000	1,360,000	643,000	2,408,000	225,000	10,000
1924.....	209,000	1,151,000	1,360,000	611,000	2,480,000	292,000	11,000
1925.....	223,000	1,117,000	1,340,000	596,000	2,579,000	280,000	11,000
1926.....	225,000	1,055,000	1,280,000	576,000	2,880,000	250,000	11,000
1927.....	217,000	897,000	1,114,000	547,000	3,053,000	240,000	11,000
1928.....	212,000	902,000	1,114,000	531,000	3,358,000	288,000	11,000
1929.....	213,000	939,000	1,103,000	515,000	3,727,000	328,000	11,000
1930.....	213,000	939,000	1,152,000	500,000	3,913,000	328,000	11,000

Note: Many earlier estimates were made to exact figures. In the above table figures have been rounded to even thousands or even hundreds.

† Based upon Census Data.

\* Tentative Revisions. All other figures are United States Department of Agriculture Estimates.

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# FARM ANIMALS ON MONTANA FARMS AND RANCHES JANUARY 1, 1930

(In Thousands of Head)

Species and Class	1928 Revised	1929 Revised	1930 Preliminary
1. ALL HORSES .....	531	515	500
Horses 2 years and over.....	454	439	425
Colts 2 years.....	77	76	75
Colts 1 year and under 2.....	39	38	39
Colts under 1 year.....	38	37	36
2. ALL MULES .....	11	11	11
Mules 2 years old and over.....	8	9	9
Mule colts under two years old.....	3	2	2
Mule colts 1 year and under 2.....	2	1	1
Mule colts under 1 year old.....	1	1	1
3. ALL CATTLE .....	1,114	1,152	1,152
Cows and Heifers 2 years and over for milk cows..	177	186	186
5. Heifers 1 year and under 2 for milk cows.....	35	37	37
Heifer Calves for milk cows.....	38	41	41
Cows and Heifers 2 years and over not for milk....	355	365	370
Heifers 1 year and under 2, not for milk.....	100	102	102
Calves, except Heifers, for milk.....	273	279	279
Steers 1 year and over.....	115	119	114
Bulls 1 year and over.....	21	23	23
6. ALL SWINE .....	288	328	328
Pigs under 6 months.....	130	150	155
Sows and gilts.....	57	68	60
Other hogs over 6 months.....	101	110	113
7. TOTAL SHEEP AND LAMBS.....	3,358	3,727	3,913
Sheep and lambs on feed.....	100	96	126
Ewe lambs for breeding.....	700	750	684
Wether and Ram lambs 1 year and under.....	14	15	15
Ewes 1 year and over.....	2,475	2,794	3,011
Rams and Wethers 1 year and over.....	69	72	77

## LIVESTOCK ESTIMATES FOR MONTANA AND THE UNITED STATES AS OF JANUARY 1, 1930

	TOTAL NUMBERS JANUARY 1			TOTAL VALUE JANUARY 1		
Montana	1928	1929	1930	1928	1929	1930
All Horses .....	531,000	515,000	500,000	\$ 16,505,000	\$ 15,996,000	\$ 15,048,000
All Mules .....	11,000	11,000	11,000	516,000	517,000	494,000
All Cattle .....	1,114,000	1,152,000	1,152,000	51,287,000	66,940,000	62,335,000
All Sheep .....	3,358,000	3,727,000	3,913,000	37,002,000	42,508,000	36,315,000
All Swine .....	288,000	328,000	328,000	4,115,000	4,303,000	4,117,000
STATE TOTAL .....	5,302,000	5,733,000	5,904,000	\$109,405,000	\$130,264,000	\$118,309,000
Milk Cows* .....	177,000	186,000	186,000	\$ 11,151,000	\$ 14,694,000	\$ 14,332,000
	JANUARY 1 NUMBERS			VALUE PER HEAD		
United States	1929	1930		1929	1930	
All Horses .....	13,905,000	13,440,000		\$70.21	\$70.71	
All Mules .....	5,390,000	5,322,000		82.34	83.00	
All Cattle .....	56,467,000	57,967,000		59.15	57.28	
All Sheep .....	47,509,000	48,913,000		10.61	8.90	
All Swine .....	56,880,000	52,600,000		13.00	13.64	

\* Includes cows and heifers two years old and over kept for milk purposes. Item included above with all cattle numbers and values.

# MONTANA DAIRY REPORT FOR YEAR ENDING DECEMBER 31, 1929

(By B. F. Thrailkill, Chief of Dairy Division)

Following is the monthly production of butter, ice cream, and cheese in Montana for 1929 as compared with the same period in 1928:

	BUTTER (Lbs.)		ICE CREAM (Gals.)		CHEESE (Lbs.)	
	1929	1928	1929	1928	1929	1928
January .....	1,000,962	986,618	28,579	30,974	168,161	101,624
February .....	960,360	916,535	32,150	36,757	147,197	101,160
March .....	1,084,389	938,557	50,751	51,066	162,428	126,342
April .....	1,123,811	1,021,391	64,614	62,609	172,708	152,401
May .....	1,534,011	1,610,558	98,900	125,195	230,645	244,877
June .....	2,139,998	2,020,865	134,812	105,043	194,407	293,070
July .....	2,195,030	2,067,809	190,690	156,010	160,329	283,306
August .....	1,826,423	1,901,120	179,054	133,867	163,329	260,014
September .....	1,468,122	1,490,737	78,975	79,284	136,761	236,544
October .....	1,423,774	1,359,916	59,867	52,086	137,113	207,772
November .....	1,023,555	1,040,776	38,383	41,115	110,818	176,424
December .....	954,032	1,008,955	33,519	34,044	109,598	163,874
Totals .....	16,684,437	16,363,832	990,294	908,050	1,893,494	2,347,408

## PRODUCTION BY ZONES

Zone	BUTTER		ICE CREAM		CHEESE	
	1929	1928	1929	1928	1929	1928
1.....	3,123,187	2,852,718	128,409	111,743	1,229,725	1,714,782
2.....	2,989,924	3,090,490	282,963	262,742	227,348	186,457
3.....	3,077,701	2,979,642	257,687	225,878	.....	.....
4.....	1,494,341	1,610,147	51,715	54,002	45,785	49,930
5.....	1,235,129	1,219,932	58,381	60,493	258,109	293,788
6.....	2,323,551	2,090,463	112,610	99,639	132,527	102,451
7.....	2,162,724	2,334,663	48,529	47,351	.....	.....
8.....	277,880	185,777	50,100	46,202	.....	.....

There were 116,391 pounds of butterfat shipped out of the state from stations in zone 1; 74,525 pounds from zone 2; 53,190 pounds from zone 6; 54,229 pounds from zone 7 and 788,872 pounds from zone 8, making a total of 1,087,207 pounds.

## KEY TO ZONES

Zone 1: Lincoln, Flathead, Sanders, Lake, Mineral, Missoula and Ravalli counties.

Zone 2: Granite, Powell, Lewis & Clark, Deer Lodge, Jefferson, Madison, Silver Bow, and Beaverhead counties.

Zone 3: Glacier, Toole, Liberty, Hill, Blaine, Phillips, Pondera, Teton, Cascade and Chouteau counties.

Zone 4: Fergus, Judith Basin, Musselshell, Golden Valley, Wheatland and Petroleum counties.

Zone 5: Meagher, Broadwater, Gallatin, Park, and Sweet Grass counties.

Zone 6: Stillwater, Carbon, Yellowstone, Big Horn, and Treasure counties.

Zone 7: Rosebud, Custer, Fallon, Carter, and Powder River counties.

Zone 8: Valley, Daniels, Sheridan, Roosevelt, Garfield, McCone, Richland, Dawson, Prairie and Wibaux counties.

## BUTTER EXPORTS

Total butter shipped out of state.....6,929,430 pounds.

### SHIPPED TO

California .....	2,767,091	Minnesota .....	209,314	Tennessee .....	1,440
Washington .....	2,691,182	North Dakota .....	26,486	South Dakota .....	2,616
Idaho .....	358,050	New York .....	443,907	Wyoming .....	31,471
Chicago .....	205,528	Ohio .....	256	Maine .....	21,344
Indiana .....	21,376	Oregon .....	66,980	Colorado .....	448
Boston .....	75,953	Pennsylvania .....	5,664	Iowa .....	324

Oleomargarine sold in Montana during 1929 totaled 196,882 pounds.

